GOVERNMENT OF INDIA.

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PROGRESS REPORT

OF

FOREST ADMINISTRATION

IN THE

CENTRAL PROVINCES

1866-67.

By Major G. F. PEARSON, 33rd M. N. I.,

CONSERVATOR OF FORESTS IN THE CENTRAL PROVINCES.

TOGETHER WITH A REVIEW BY THE CHIEF COMMISSIONER,

AND

ORDERS THEREON BY THE GOVERNMENT OF INDIA

ALSO

REPORTS, WITH MAPS, ON THE AHEREE, PANABARAS AND OTHER FORESTS IN THE EASTERN AND SOUTHERN DISTRICT OF THE CENTRAL PROVINCES, WITH ORDERS THEREON BY THE GOVERNMENT OF INDIA AND THE CHIEF COMMISSIONER.

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PROGRESS REPORT

OF

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CENTRAL PROVINCES

1866-67.

By Major G. F. PEARSON, 33rd M. N. I.,
CONSERVATOR OF FORESTS, CENTRAL PROVINCES,

REVIEW BY THE CHIEF COMMISSIONER.

No. 2132—201, dated 4th June, 1867.

From—C. Bernard, Esq., *Secy. to Chief Commr. of Central Provinces,*
To—*Conservator of Forests, Central Provinces.*

I am directed to acknowledge the receipt of your Report upon the operations of the Forest Department during the year 1866-67. In communicating the Officiating Chief Commissioner's review thereon, I am to group his remarks under the three main heads of—

Reserved Forests.
Unreserved Forests.
Financial results and general remarks.

2. The first head then is the *Reserved Forests.*

Explorations.

3. The Government forests of these Provinces have now been everywhere explored, and their timber-bearing qualities are known. Excepting only two small patches of teak, no new *reserves* have been formed during the year. The previously little known forests of Sehawa and Lown, in the Eastern Division, were completely explored; and it has been decided that a provisional reserve should be formed in Sehawa. The most important explorations were those made by yourself in the private (Zemindaree) forests of the Panabaras and Aheree Chiefships. In these jungles much very fine timber was found, enough, indeed, according to your computation, to furnish a timber supply for the Nagpoor country. The arrangements for working these forests under special agreements with their owners have formed the subject of separate communications. It is matter of regret that the Panabaras teak should, much of it, turn out to be unserviceable; but on this point the Officiating Chief Commissioner will await a further report. He is glad to know that, as far as our present information goes, the Aheree teak is free from the unsoundness which so materially affects the value of the Panabaras timber.

Demarcation.

4. The demarcation of the reserves seems now to have been everywhere completed, or nearly completed. The boundaries of the important reserves of the Puchmurree, Jubbulpoor, and Seonee Divisions are now well known to the people, and are for the most part respected. Even if it should be found, for the future, too expensive to clear yearly the paths round the larger reserves, it will always be possible to verify everywhere that the permanent boundary marks are unremoved and in good repair.

Survey.

5. It is satisfactory to learn that the work of surveying the forest reserves is beginning. When reliable maps on a sufficiently large scale shall have been made, it will be comparatively easy to keep the limits of *reserves* clear, so long as the boundary pillars are standing. Your proposals for effecting a valuation survey of the Aheree Forest, in view to the fullest utilization of its teak, received Mr. Temple's approval.

504,—21, 10, 67.

6. Now that the *reserves* have been marked off, no "dhyas" (cultivation clearings of a peculiar kind) are cut within their limits; and no unauthorized attempts are made to cut timber or collect forest produce within reserves. Indeed, it would seem that your department has been *quite* successful in maintaining the Forest Rules in *Reserved* Forests. The forces against which reserves have to be guarded are fire and the luxuriance of nature herself. It seems to be very difficult entirely to exclude fire from the larger *reserves*. But Lieutenant Doveton appears to have been fairly successful in the Boree reserve. His remarks regarding the gradual disappearance of grass in parts of the forest when the annual fires do not occur are interesting. And the Officiating Chief Commissioner desires that the matter may be noticed in future reports. The device simultaneously suggested by your two most experienced Assistants of keeping out destructive fires, by firing the grass earlier in the year when it burns slowly and harmlessly, might, unless you saw reason to the contrary, be tried on a small scale next spring.

Protection and conservancy.

7. Your Report shows that the importance of establishing plantations of forest trees of babool *(Acacia arabica)* and of foreign trees is kept in view, although no specific results in this direction have been achieved during the year. The Officiating Chief Commissioner has every confidence that the experience of the excellent plantation system of Nellambore, gained by you on your recent visit to the Malabar Coast, will have the best effect in causing a good system of plantations to be set on foot, and energetically prosecuted. The attempt to found Cinchona gardens in some well selected part of the Sautpooras will be again renewed, now that you have yourself visited the best Cinchona plantations of the Neilgherry Hills.

Plantations.

8. Rupees 14,500 were usefully spent during the year in improving the communications between Reserved forests and the timber markets. Besides minor undertakings, a good forest road has been made between the Topla Sâl Forest and the Upper Nerbudda Valley. The Delakaree Forest road is also an important work. Both these roads will be of great value to the neighbouring districts, as well as to the Forest Department, and to timber dealers.

Forest roads.

9. No felling of large timber on any considerable scale has been undertaken during the year. The only large trees which were cut down in the reserves were Sâl trees, mostly from Topla. The observations made by Lieutenants Doveton and Douglas on the best mode of securing Sâl timber from the attacks of the insects which spoilt so much Sâl timber in Beejoragoghur four years ago, are interesting. Their enquiries must, however, be persevered in before any other inferences can be drawn, save that a squared log piled in a depôt is safer from the carpenter-bee than an unsquared tree lying on the ground.

Felling of timber.

10. Although few well-grown trees of any kind, and no large teak trees were cut during the year, yet a large quantity of good serviceable teak was got out of the Puchmurree, Jubbulpoor, and Seonee Divisions by felling Teak stumps, and dragging out from the jungles logs which had been felled in years gone by. In this way more than a lakh and a half of Rupees worth of timber, which would never have been brought into use if the felling had been left to private speculators, was taken out of the forests and thrown into the market. The Officiating Chief Commissioner entirely approves of your intention to exhaust this source of supply before well-grown trees are felled in the Northern forests.

Yield of reserves.

11. I am now to advert, *secondly*, to the subject of *Unreserved Forests*.

12. The Government wastes and jungles, which are administered as "Unreserved" Forests, cover about 21,000 square miles of country. They occur, though in varying proportions, in every District of these Provinces. They are managed by the Local Civil Authorities, who, in this branch of their duty, enjoy the supervision and advice of your Department. From the "Unreserved" forests, and from the private forests

Government wastes.

(Mâlgoozaree and Zemindaree) with which they are interspersed, the population of the Central Provinces and of a part of Berar (about ten millions of souls) draw their supplies of petty timber, of bamboos, of fire-wood, of grass, of mowah flower (used for distilling liquor), of lac, of gums of various kinds, andof other miscellaneous forest products. At paras. 27 to 31 of last year's Forest Review, Mr. Temple explained at length the manner in which these wastes had now been formally declared to be the property of the State. It is, therefore, now only necessary to advert to the manner in which the "Unreserved" forests were managed, and to the revenue they yielded in the year under review. For this purpose it will be best to consider each Division or Commissionership in the order adopted by yourself.

Jubbulpoor Division.

13. In the Jubbulpoor Division a revenue of Rs. 47,914 was realized in the year 1866-67, as compared with Rs. 29,785 in the preceding year, by the lease of the right to collect the natural products of "Unreserved" forests. The increase is spread over every District of the Division ; and the District of Jubbulpoor alone has not hitherto succeeded in yielding a forest revenue proportioned to its importance. As explained by the Deputy Commissioners, this failure is in part due to certain omissions in the Settlement Department, which have been rectified during the year under review.

Nerbudda Division.

14. The yield from annual usufruct leases of "Unreserved" forests in the Nerbudda Division was Rs. 69,262 for the year 1866-67, against Rs. 39,417 in the preceding year. The Officiating Chief Commissioner is satisfied that, in every District of this Division, forest revenue is carefully fostered, and that Forest Laws are maintained, while at the same time the interests and habits of the hill tribes are fully cared for.

Nagpoor Division.

15. The revenue from "Unreserved" forests in the Nagpoor Division has risen from Rs. 33,075 in the year 1865-66 to Rs. 60,254 in the year under review. In the Bhundara and Chandah Districts, where there are large jungles well administered, a still higher revenue will, you anticipate, be realized. In the Nagpoor District also, where there are such large centres of population, and where the demand for forest products must be great, the jungles of Bherogurh, Ramteak, Oomrair, and of the Katole Tehseel, will doubtless yield an increasing revenue.

Chutteesgurh Division.

16. In last year's review it was noticed that there was hardly any forest revenue from the Chutteesgurh Division. The returns for the year 1866-67 evince some improvement in this respect, as Rs. 5,000 of forest revenue were realized. But the Officiating Chief Commissioner considers that the Local Civil Authorities must not be satisfied with this small advance. He is glad to learn from a Note to your Report that the "Unreserved" forests of Raepoor alone will yield more than Rs. 12,000 during the year 1867-68.

Upper Godavery District.

17. In the Upper Godavery District a forest revenue of Rs. 12,295 has been raised in the year 1866-67, as compared with Rs. 4,986 in the foregoing year. And this considerable sum has been collected without in any way inconveniencing the comparatively sparse population of the District.

General remarks on "Unreserved" forests.

18. Besides the very considerable increase in the revenue, from Rs. 1,07,000 to Rs. 1,95,000 in this, the second year of regular administration of our "Unreserved" forest, there are other satisfactory features in this branch of forest management during the year 1866-67. The people have everywhere become accustomed to, and almost everywhere have become satisfied with, the Forest Laws. Not only is the annual produce of Government Forests more thoroughly utilized than before, but the Forest Regulations have had the effect of making land-holders work more fully their own wastes. Much valuable labour, which in former years was devoted to gathering, in an unsystematic fashion, the fruits of boundless forests, or to wasteful methods of cultivation, has now been directed to reclaiming lands from the jungle, or to making the

most of the natural products over a well-defined area of waste. Even the Bygars of Mundlah are beginning to use the plough, and to reside in fixed habitations. Not only are prosecutions for breaches of the Forest Rules exceedingly rare, but there are very few complaints made regarding the stringency of the law. Much of the smoothness with which the system works, may, as you observe, be attributed to the circumstance that land-holders often become lessees of the waste lands in their neighbourhood. Lessees of this kind are usually less harsh and strict with the people than professional Contractors from a distant town would be. Moreover, the land-holder can realize his fees with much less expense than a stranger could do. In one respect only, namely, the payment of grazing fees by Brinjarras (pack-bullock owners), did any allegation, that the rules were harsh, reach the Chief Commissioner. In that case, after due enquiry, the strictness of the rules were relaxed in favour of Brinjarras travelling through the forests.

Permits to fell timber.

19. It is to be remarked that the rules are, as yet, in one point, namely, the granting of permits to cut timber, nearly inoperative. Most of the District Officers report that the local market has been sufficiently supplied with timber; that people are now using cheaper, though equally serviceable, sorts of wood, where they used to use teak; and that the private (Mâlgoozaree and Zemindaree) forests furnish enough timber to supply present wants. But the Officiating Chief Commissioner is disposed to think that in many cases permits are not applied for, merely because the people do not know that such applications would be granted. And this impression gains strength from the circumstance that, in one or two Districts where special pains were taken to make known this clause in the Rules, many permits were applied for towards the end of the year. Mr. Morris would draw the special attention of Deputy Commissioners to the necessity of thoroughly making known the provisions of the rules in respect to the cutting of timber under permits. In the instructions to District Forest Darogahs which were issued during last year, it was particularly laid down that District Officials were bound to see that the local markets were sufficiently supplied with timber. The attention of local Forest Officers should be more and more directed to this matter; otherwise there will be risk that, while we are protecting our forests for the good of future generations, the present population may be straitened by the want of timber for architectural, farm, and domestic purposes.

Financial results.

20. The financial results of the year's Forest administration have been as follows :—

Cr.	Rs.	Dr.	Rs.
Cash receipts of the year ...	3,70,719	Stock in hand at the beginning of the year	1,62,598
Stock in hand at the year's end ...	2,28,947	Outstanding debts due to the Forest Department at the beginning of the year	61,779
Outstanding debts due to the Forest Department at the close of the year	10,271	Expenditure of the year	1,45,708
		Total ...	3,70,085
		Balance in favour of the Forest Department	2,39,852
Total ...	6,09,937	Total ...	6,09,937

There was thus a surplus, or net profit, on the forest operations of the year 1866-67 of Rs. 2,39,852.

21. Comparing the financial results of Forest administration in these Provinces, the figures stand thus :—

	Gross income.	Net surplus computed as in the foregoing para.
	Rs.	Rs.
1864-65	89,306 ...	1,08,083
1865-66	2,02,643 ...	1,37,162
1866-67	3,70,719 ...	2,39,852

The facts shown in the above Statement are considered by Mr. Morris to be highly satisfactory. The circumstance that the financial year 1866-67 comprised only 11 months, makes the foregoing comparative table still more in favour of the year under review. It is evidence of the improved management of your Department, that whereas on previous occasions there have been large outstanding debts unrealized at the close of the year, there are this year no appreciable outstanding sums due to your Department on account of timber. In the Bhundara District there was a considerable sum due on account of "Unreserved" forest leases, which was unrealized at the close of the year; but the whole balance has been since collected. And it is hoped that a proper arrangement of instalments may in future years ensure the whole demand of each official year being realized before its close.

General remarks.

22. It may fairly be said that the forest system of the Central Provinces had become firm and consolidated just before Mr. Temple, its founder, left this Administration. Reserves have been marked off and brought thoroughly under regular conservancy. The forests have been everywhere explored. The "Unreserved" forests have been defined, and a regular system of managing them has been for two years in successful operation. The Forest Department will have to work the reserves, and selected private (Zemindaree) forests in such a way as to satisfy the wants of the timber trade of these Provinces. The Railway has now been opened to our chief cities, and through our most populous tracts. It can bring to Jubbulpoor sâl logs from the Nepaul Terai, and it can deliver at Nagpoor Burmah teak. Both these kinds of timber can probably be put down close to Railway Stations at cheaper rates than the timber of your Department has fetched during the last two years. Perhaps, then, the rates hitherto existing, namely, Rs. 2½ and Rs. 3 a cubic foot for teak will fall; and the efforts of your Department must be directed to cheapening the cost of felling timber, and getting it out of the forests. The Officiating Chief Commissioner will watch with anxiety the results of the next two years' work in the Aheree and Panabaras Forests, whence, if from anywhere, must come the local supply of large logs to compete with Moulmein timber. In the management of "Unreserved" forests, the Local Officers must, by a steady elaboration of the present system, strive for an increasing revenue, and they must take care that the people under their charge do not suffer any inconvenience, which a liberal administration of the law would obviate.

Conclusion.

23. In conclusion, I am to convey to you the Officiating Chief Commissioner's thanks for your clear and valuable Report, and to express his high sense of the benefits which the Forest Department in these Provinces has derived from your supervision. To Lieutenants Doveton and Douglas, among the Assistant Conservators, commendation is especially due for their successful exertions during the year. The financial results of the year in Lieutenant Douglas' Division were particularly creditable. The good service done by Mr. Jacob in exploring and working the Panabaras Forests has been separately acknowledged. Mr. Morris is glad to observe that you are able this year to speak highly of all your Assistants, and of the Native Subordinates. The District Officers have, as a body, performed their forest duties very well. Captain Twyford, of Baitool; Colonel Crichton, of Hoshungabad; Captain Newmarch, of Bhundara; Captain Lucie Smith, of Chandah; Captain Glasfurd, of the Upper Godavery District, have, in some respects, done better than the rest; and to these Officers the Officiating Chief Commissioner's thanks are hereby tendered.

CONSERVATOR'S REPORT.

No. 50, dated 22nd May, 1867.

From—Major G. F. Pearson, *Conservator of Forests, Central Provinces,*

To—Secretary to Chief Commissioner of Central Provinces.

In submitting the Forest Report for the past year, I shall follow the arrangement of subjects suggested by Dr. Brandis, with the addition of a separate chapter on the Unreserved Forests under the management of District Officers. I shall first briefly note from the different reports what has been done in each Forest Division under each heading, and then offer my own remarks on it.

The following will be the arrangement of subjects :—

I.—Survey and examination of forest tracts little known.

II.—Demarcation of Reserved Government Forests.

III.—Protection of the Forests, and work for their improvement.

IV.—Selection of trees to be felled, and yield of Forests.

V.—Management of the Unreserved Forests under District Officers.

VI.—Financial results.

VII.—General.

I.—SURVEY AND EXAMINATION OF JUNGLE TRACTS LITTLE KNOWN.

A. Division.

2. The A, or Northern Division, comprises the Saugor, Dumoh, Jubbulpoor, and Mundlah Districts, and part of Seonee, and is held by Lieutenant Douglas.

3. Lieutenant Douglas has been regularly in camp during the whole year, except for a very short period. During May and June he was in Shagurh and Mundlah; in August and September he accompanied myself to Dumoh, Garrakotta, and Nursingpoor; and since then he has been engaged in surveying and preparing the new forest road from Topla to Bichia; in getting the sâl timber down along it; in demarcation work; and in preparations for planting. The whole of his District is now well explored and known; and his sole recommendation for new reserves is confined to an extension of the Jugmundel reserves along the Dutla River, where there is some fine young teak. He is now in treaty with the Settlement Officer about the land. The sâl in Shagurh, which I sent him to inspect, is not worth reserving, the trees being few and scattered.

B. Division.

4. The B, or Raepoor Division, has been under charge of Mr. Jacob.

5. Extensive explorations have been made by Mr. Jacob (principally in company with myself) in this Division, full reports on which have been already submitted to Government through the Chief Commissioner. In addition to this, Mr. Jacob has visited the Lown Forest, between Raepoor and Belaspoor, and the Sohawa jungles, both of which were but little known, and about which much uncertainty existed.

6. *Lown*, as was supposed, has been found by Mr. Jacob to produce no valuable timber at all, though there is a light sprinkling of sâl of small size, but it is full of grass, bamboos, and fire-wood, of which it is one of the chief sources of supply to Raepoor. It will be now carefully looked after by the Deputy Commissioner.

7. *Sohawa* is in the extreme south-east corner of the Raepoor District, far away from all present civilization, but contains much fine sâl along its south boundary, but no other timber of any value. It is so far distant from a market that at present its timber cannot be expected to find a sale at all; but I am inclined to think that, as the soil is rich and productive, and as land is likely to be purchased under the Waste Land Rules, here the valuable portion of the Sâl Forest should be marked off for a reserve. No great expense is necessary, or should be allowed, either for this purpose, or for its protection: but eventually it is possible that sâl sleepers, even at high prices, may be in demand by the Railways.

C. Division.

8. This Division, which comprises Seonee and Chindwarra, has been under charge of Mr. Brereton. As one of the old and best known Divisions, no new explorations have been made here; but Mr. Brereton has been usefully employed in making himself acquainted with the forests, and with demarcation works.

D. Division.

9. This Division comprises Hoshungabad and Nimar, and is under charge of Mr. Cox. The forests are all well known. Mr. Cox has been usefully employed in like manner as Mr. Brereton.

E. Division.

10. This Division comprises the block of forests round the Puchmurree Hills and Baitool. Lieutenant Doveton, my best Assistant, has held it ever since its formation.

11. The regular survey of the reserves in this Division has now commenced by the Topographical Survey Department, but it will be some time before the maps are completed.

F. Division.

12. This Division comprises the Wurdah District and Chandah. It is under charge of Captain Jarrett, V. C., who has lately joined. Captain Jarrett was engaged with me personally in exploring the Aheree, Daba, and Mohorlee Forests, and has now a good knowledge of his Division.

Remarks by the Conservator.

13. My own explorations during the past year have been fully reported already. In addition to these, I have visited every Forest Division and Office during the past year. I have only to report in addition, and I do so with much regret, that I learn from Mr. Jacob, who has commenced to work in the Panabaras Forests, that the percentage of unsound logs there is so great, that he fears the amount of sound timber available will be very far under what we both previously estimated. I should not then desire that at present saw-machinery should be put up here till more certain calculations of the exact amount of timber available can be made. The trees on the hills which seemed to me to be in the finest order, Mr. Jacob represents as turning out the worst in this particular. It is probable that they have gone on deteriorating now for near half a century from the inside, but from the absence of jungle fires the outside has escaped injury. I have as yet no details, however, to enable me to enter into particulars.

14. The survey and settlement operations are now progressing to completion everywhere. The regular survey of the Baitool reserves has commenced; that of the Sautpoora reserves in Seonee will, I trust, commence next year. But we must trust somewhat to ourselves, and I purpose to merge the D. or Western Division into the E. Division after the rains, and to remove Mr. Cox to the C. Division, which will set free Mr. Brereton, who is fully competent to prepare such maps. The Aheree Forest, as well as Mundlah, has, I believe, little chance of being taken up by the regular survey for a long period, and I propose that he should commence on the former.

II.—DEMARCATION OF RESERVED GOVERNMENT FORESTS.

A. Division.

15. With the exception of Topla, the reserves proposed in last year's Report in this Division have now all been demarcated by the cutting of boundary lines, and masonry pillars are in course of erection round them all; and Lieutenant Douglas trusts that the pillars will all be completed before the rains.

16. The Topla Reserve will be defined at once, the necessary maps having now been received from the Settlement Department. The same will be done as regards a small teak reserve which I selected myself last autumn between Jubbulpoor and Dumoh, and a small teak reserve which Lieutenant Douglas proposes to form in the Singarpoor Talooq, east of Mundlah.

B. Division.

17. The Kumturra Nulla Reserve has been finally demarcated. The other small reserves in this Division must await the further progress of the Settlement, but the claims to the proprietary rights will be adjusted as soon as possible, and demarcation will be proceeded with.

C. Division.

18. The final demarcation of the great Sautpoora Reserve, with a boundary of 280 miles, is now completed, and permanent boundary pillars are being built. The Deogurh Reserve will be marked off before the rains.

D. Division.

19. The three Reserves of Poonassa, Kaleebheet, and Rajoboraree, have been carefully marked off by Mr. Cox, and their boundaries well cleared and defined. Their regular survey by the Topographical Department has also commenced. The permanent boundary pillars of masonry do not, however, appear to have been commenced; but they shall be done next year, except, perhaps, in Poonassa, where the settlement is not yet altogether completed.

E. Division.

20. I deeply regret that Lieutenant Doveton's continued ill-health has prevented his demarcating the Towah and Sonebudr Reserves as yet, but he hopes to get them done before the end of the season. With these two small exceptions, his previous labours in this work have, however, secured the completion of the immense amount of boundary required in the important reserves of this Division.

F. Division.

21. Sanction has been received for the Daba and Mohorlee Reserves in this Division to be given up; and the Ashtee Reserve is only to be taken up provisionally under Rule IV. Our main attention in this Division must ever be devoted to Aheree; all the other forests are comparatively worthless.

Remarks by the Conservator.

22. Referring, then, to the list of forests remaining to be demarcated (*vide* para. 43 of last year's Report), eight in number, those marked 1, 2, and 3, are either completely demarcated, or will be finished before the monsoon; 4 and 5 will also be done, if Lieutenant Doveton's health permit him; 6 and 7 have been since given up; and 8 will be taken up provisionally, when Captain Jarrett can go there after the monsoon to examine it. Besides having a clear line cut round the reserves in all cases in all the important reserves, where masons are procurable not at a ruinous cost, permanent boundary pillars either have been erected, or are in course of erection. I have, however, limited the cost of each pillar to Rs. 10; where this is not possible, good stout teak-posts are driven into the ground, and large stones heaped round them with white pots placed on the top. I am afraid keeping the boundaries clear will be expensive work. In many instances I have had to sanction those cut last year to be cleared again, as all the undergrowth of jungle had grown up as high again as ever.

III.—PROTECTION OF THE FORESTS, AND WORK FOR THEIR IMPROVEMENT.

A. Division.

23. Jungle fires have occurred more or less in all the reserves. I fear that here their total exclusion will never be effected.

24. A site of 4 square miles in the angle formed by the Bormeyr and Halon Rivers has been selected for a plantation. Seed beds for teak and toon have been fenced in, and the land for this season's planting trenched. All this work seems to be progressing most satisfactorily under charge of Mr. Grahame, the newly arrived Forester from Scotland.

25. Babool seed for Wurdah and the Berar Districts is being collected.

26. Considerable efforts have been made by the Deputy Commissioners of Mundlah and Balaghât to stop dhya cultivation. Lieutenant Douglas thinks that they have been attended with much success, and that the practice is dying out. The practice of tapping the sâl trees for dammer has been entirely stopped in the Reserved forests of this Division.

27. The work of re-forming the Garrakotta Rumna Reserve was commenced, but owing to Mr. Taylor's illness and discharge little has been effected during the past season. Work now, however, is going on well there, and there are upwards of 3,000 young teak trees in the nurseries ready to be planted out next month.

28. The Australian trees (blue gum and acacia) planted at Garrakotta seem at present to be going on pretty well, but the Himalaya firs have withered.

29. A capital cart-road has been now opened by Lieutenant Douglas from the Topla Sâl Forest to Bichia and into Mundlah, by a line which I pointed out to him. This road will be of great use for the general traffic from Chutteesgurh over the Chilpee Ghât.

B. Division.

30. As Mr. Jacob's services were urgently required at first for exploring, and later on in the season for work in Panabaras, I deferred all planting operations in this Division till some future period. Indeed, I do not propose to commence them until we get a few men trained properly to the work. The teak seed, which was collected for the purpose, has been distributed to some Mâlgoozars, as Government has made some concessions to men who will plant trees in this Province, and Mr. Jacob will watch the result.

31. Dhya and tapping for dammer in a manner that unnecessarily injures the trees, largely exist all through the District; but with so thoroughly earnest a Forest Officer as Captain Twyford in the post of Deputy Commissioner, I have no doubt that these evil practices will rapidly diminish.

C. Division.

32. Fires have raged in the reserves of this Division. They are far too extensive for their total exclusion to be hoped for.

33. Mr. Brereton has prepared 25 acres of land for teak-planting this season, which he hopes to carry out successfully on the plan followed at Nellamboro.

34. Dhya cultivation in this Division has been entirely put down in the reserves, and, indeed, can hardly be said to exist anywhere, except in some of the remotest jungles.

D. Division.

35. Mr. Cox reports that, up to the date of his Report, the reserves had been tolerably free from fire, which he considers to be owing to the good demarcation lines which he has this year cleared round them. It will be satisfactory if this immunity from fire continues until the monsoon. Plantation operations will be commenced on a moderate scale in a very favourable locality on the Taptee River in Kaleebheet.

36. Dhya cutting has been entirely stopped in the Government Forests of this Division, but Mr. Cox reports that it is still carried on in the petty Chiefships.

E. Division.

37. In the Boree Forest, where, from the value of the timber, special exertions at considerable expense are made to keep out fire, Lieutenant Doveton has again been successful to a great extent. There was one fire only in the Boree Reserve, which was put out before it had covered an area of half a square mile. The Baitool Reserves have all, however, been burned.

38. In some portions of the Boree Reserve there have been now no fires for *three years*, and *here the grass seems entirely to have died;* and Lieutenant Doveton is strongly of opinion that, if fires could be kept away for five years in succession, none would ever come again.

39. It is, however, a matter of serious consideration (as Lieutenant Doveton says) what effect destroying the grass entirely might have on the growth of timber. The soil will undoubtedly be more exposed all through the year to the heat of the atmosphere and the moisture of the ground, instead of remaining in it for several months after the monsoon, as at present, will rapidly evaporate under an October sun. This will be of less moment in Boree, and in such forests in which there is an undergrowth of bamboos and brush-wood. But the practice will be carefully kept up in Boree, and the results noted for our guidance.

40. Clearing trees of creepers, thinning, and pruning, have been regularly carried out by Lieutenant Doveton under careful supervision.

41. The road from the Delakaree Sâl Forest to Bunkheree has been completed, and is an excellent work in all respects.

42. Dhya cultivation is entirely stopped in the Reserves, but Lieutenant Doveton reports that, in some parts of the District, the people still show a hankering after it, which he considers is owing to some of the influential Natives having told the people that the orders of Government on the subject will be relaxed. The attention of the Civil Officers should be requested to this point. In Baitool many fields, which were formerly dhyas, are now regularly ploughed and cultivated.

43. Teak-planting has been commenced this year regularly under Mr. Davidson. Lieutenant Doveton seems apprehensive that the general want of moisture here, which has hitherto stood so much in the way of his experiments in planting, will prevent these plantations being very successful. However, I think it is right to give the sites which were carefully selected a fair trial under proper management, before they are removed to any other spot.

44. A number of the *Eucalypti* from Australia, and two species of *Casuarina* have been planted at Puchmurree, and seem to be coming on admirably.

F. Division.

45. Captain Jarrett having but lately joined, nothing has as yet been done.

Remarks by the Conservator.

46. Much credit is due to Lieutenant Doveton for the great pains he has taken in the matter of forest fires. Both he and Lieutenant Douglas recommend, as worthy of consideration, the trial of a plan of partially burning the grass in the reserves at an early period of the year, when it contains much sap, and burns with but little vigour, so that the stalk of the grass itself is seldom entirely destroyed, and surrounding shrubs are but little injured. They think that a mild fire, which would do but little harm, would be preferable, wherever, from the extent of area to be protected, it cannot be prevented entirely to the attacks of the element as it rages in full fury in April or May.

47. Babool plantations of several acres in extent have been formed last year in Wurdah, and the young trees are coming on well. Much more will be done during the present monsoon in this matter in all the plain Districts, as much seed is being collected.

IV.—SELECTION OF TREES TO BE FELLED, AND YIELD OF FORESTS.

A. Division.

48. The experiments in girdling sâl trees have been going on for eight months, and are still incomplete. But Lieutenant Douglas reports the following results, some of which are curious:—

1st.—Sâl trees properly girdled begin to die at once, and in three months they became quite withered.

2nd.—The trees girdled in August and September were attacked by the carpenter-bee, while those girdled in the other months were not so attacked.

3rd.—But, again, the trees girdled in August and September were girdled while the moon was increasing, while the other trees were girdled when the moon was on the wane.

4th.—But, again, 10 logs were felled without girdling, and squared immediately during the increasing moon, and they were not so attacked; and of this much there can be no doubt that all sâl trees should be *at once* entirely freed from sap-wood, in order to preserve them from the attacks of the carpenter-bee.

49. A timber depôt has been formed at Mundlah, and 700 of the Topla sâl logs have been squared; and now that the road is open, will be removed to Mundlah. It is calculated that this timber will cost about Rs. 1-13-4 per cubic foot in Mundlah, and a Rupee more delivered at Jubbulpoor.

50. Two hundred experimental sleepers of sâl have been prepared at Topla, and will be removed at once to Jubbulpoor, in order to ascertain the

Note.—Three thousand and three hundred and thirty trees of 1st and 2nd class were last year counted in the whole of the Mundlah Teak Forests, both reserved and unreserved.

exact cost of delivering sâl sleepers at Jubbulpoor. The cost of preparation of each sleeper in the forests was 14 annas and 4 pies.

51. Lieutenant Douglas reports a great amount of unsoundness among the Topla sâl. Of 100 trees felled, 10 were entirely unsound, and 40 were all partially so. This, with the cost of labour, makes the Topla sâl timber excessively dear, without the addition of cartage. This unsoundness, except in very far gone cases, is not discernible in growing trees, even by persons of experience; and Lieutenant Douglas thinks that it is not confined to mature trees only, but that the disease attacks those of every age.

52. From the Reserved forests, 726 teak stumps, and from the Unreserved forests, 1,336 unclaimed logs, have been collected during the past year, all being timber of small dimensions; also 2,983 logs have been floated to Jubbulpoor; and 22,720 cubic feet of timber have been supplied to the Public Works Department; 2,050 rejected sleepers, and 152 timbers, have been sold by auction in Beejoragogurh. The wants of the general population have been supplied from the Unreserved forests and private land.

53. The Mundlah Forests may be now said to have little or no teak of good scantling left in them, and our resources must be rigidly guarded, and the timber in store carefully preserved, and not lightly parted with.

B. Division.

54. One hundred and forty-three logs of sâl, containing 2,325 cubic feet, have been made over to the Public Works Department from the Kumturra Nullah Reserve. The people of the country supply themselves from the Zemindaries, and from the Unreserved Forests.

C. Division.

55. Eight hundred teak stumps have been felled in the Dumoh District of Seonee, and will be converted into sleepers, or sold at Jubbulpoor. Owing to the great devastations in these jungles by Railway Contractors, I have been compelled almost entirely to close them for timber operations, except certain portions of the great reserve east of the Northern Road.

D. Division.

56. In this Division the Kaleebheet Reserve has furnished 1,545 teak stumps, and Rajoboraree 876; the total cubic contents of which are 11,285 cubic feet, or an average of 4⅔ cubic feet each stump. The wood, though small, is old and close grained and hard, and makes good sleepers, and they should realize about Rs. 14,000 as such.

E. Division.

57. Lieutenant Doveton has experimented largely on the girdling of sâl. In many of his observations he agrees entirely with Lieutenant Douglas: the leaves of girdled trees seem to have withered generally in three months; trees girdled and then felled suffered more from the carpenter-bee than trees girdled and left standing, but trees felled and squared in no case suffered at all; insects always attack the part of the tree which is nearest the ground. Sap-wood and bark (Lieutenant Doveton observes) are the chief attractions to the carpenter-bee. Lieutenant Doveton complains, like Lieutenant Douglas, of the number of sâl trees which appear externally quite sound, but when felled are a mere shell. Lieutenant Doveton has found three distinct species of insects attacking the sâl tree, and he proposes shortly, when he has had time to mature his observations, to offer a report on the subject.

58. Four thousand teak stumps, and 5,500 previously felled logs, have been collected at the depôts; 17,500 cubic feet of timber have been supplied to the Department Public Works; and arrangements are being made to cart 50,000 cubic feet for the Department Public Works to Saugor, and 12,000 cubic feet to Asseerghur. Eight hundred teak sleepers have been carted to the Railway. The total yield of these forests for the year is 63,738 cubic feet, and 1,079 sleepers. In all respects it is satisfactory. No fresh trees have been felled in the Boree Teak Forest. Lieutenant Doveton considers that about 5,000 logs of old teak timber still remained to be collected inthe Reserved Forests, which, it is to be hoped, will be effected during the current year.

F. Division.

59. No work during 1866-67.

Remarks by the Conservator.

60. It will be seen that, in our two great Forest Divisions, *viz.*, those of Mundlah and Puchmurree with Baitool, our operations are still mainly confined to the clearing out and collection of the old timber felled in previous years, together with teak stumps and other miscellaneous works of the same description. My object in this is to secure the well-seasoned timber from being burnt, and so prevent waste; and as the timbers for the girder bridges on No. 17 Contract, Great Indian Peninsula Railway, are not to be supplied by us, we have been saved from felling our finest trees in the Boree Forests. I find that Burmah teak is now so cheap in Bombay (not over Rs. 75 a ton for such wood as the Contractors will employ) that they will be able to supply it at a considerable profit to themselves for the price they receive for it from the Company. Indeed, the opening of the Railway will, I fear, materially affect our sales of timber to the Public Works Department and others who are now good customers.

V.—MANAGEMENT OF UNRESERVED FORESTS UNDER DISTRICT OFFICERS.

Jubbulpoor Division.

District Jubbulpoor.

61. The Unreserved forests of this District have realized this year Rs. 1,995-2, against Rs. 420 last year; a revision of the Settlement is to be made, which will probably bring the Unreserved forests of this District to their proper place in the scale. Captain Ricketts has exerted himself much, I am sure, to make what he has done out of the small area at present available.

District Dumoh.

62. The revenue from this District has increased during the past year from Rs. 8,291-15-9 to Rs. 10,012-13-9, chiefly realized from bamboos, fire-wood, and small timber, and grazing dues, and also from lac. I observe with pleasure that in this District, out of 241 chucks or blocks of forest, 209 were taken by neighbouring land-holders. Mr. Read is a capital Forest Officer, and takes much interest in the welfare of his jungles.

District Mundlah.

63. The revenue in this District has increased from Rs. 1,588 last year, to Rs. 5,970-1-7 during the current year; but as a large portion of this increase arises from duties which were levied under a misunderstanding, it can hardly be hoped that it can be kept up in a District where there is so small a market, and where the village jungles in all cases will supply the common wants of the people. As regards dhya cultivation, Captain Ward, who has been at great pains to wean the people from its practice, is of opinion that it will in course of years die out, but that it will be long before it is quite put down in the remoter forests; he states, however, that, in some instances, the Bygars have taken to the plough. I am certain that, with Captain Ward's judicious management, these wild creatures may eventually be brought to cultivate the rich black soil plains of Ramgurh in lieu of the rocky soil of its hills; and when they once do so, the rich return they obtain will be the best inducement to wean them from this most wasteful system of cultivation.

District Seonee.

64. The receipts of the Seonee District are Rs. 15,326-4-6 during the present year, against Rs. 11,594-4-8 last year. This is a very good income, when it is remembered how large a portion of the Seonee jungles is taken up by a Forest Reserve. The revenue is chiefly realized from the sale of fire-wood and small building timber, bamboos, grass, and grazing fees. Colonel Dennys has laboured under great disadvantages as regards regular work in his forests, owing to his Darogah having been changed four times. This was unavoidable in re-arranging the establishment, but it no doubt acted much to his inconvenience as District Officer, and I will take care that it does not occur again; I am very glad to see that in this District also the land-holders are keen bidders for the right to collect the forest dues.

65. The revenue for 1866-67 of this District is Rs. 12,530-2; during the previous year its forests produced Rs. 7,892. The revenue is realized from the sale of fire-wood, small timber and bamboos, and some small portion of it from jungle produce, such as mowah, lac, and gums. Colonel Maclean takes much interest in the forests, and they are sure to flourish under his care.

District Saugor.

CHUTTEESGURH DIVISION.*

66. In this Division, Rs. 3,635-4 have been realized from the Belaspoor District, and Rs. 890-8 from Raepoor. The whole question of the Unreserved forests was taken up by myself, in conjunction with Civil Officers, this year when I went to Raepoor. It had been entirely neglected previously; and I think great credit is due to Mr. Chisholm and Captain Wakefield for the improvement that has been effected in Belaspoor. Now that Captain Twyford (who is, perhaps, the most energetic Forester we have outside the Department) has been posted to Raepoor, I have but little doubt that the reforms which have been commenced will be productive of the best results. I myself made a careful examination of the Unreserved forests of the Southern Frontier, and although they contain but very little timber of large size, yet I am persuaded that from lac, tussa cocoons, gums, as well as fire-wood, and small building timber, of which there is not a stick in all the broad plains from Raepoor to Dhumterry and Balode, a handsome revenue may be realized. For reasons previously reported, Sumbulpoor can be expected to yield no revenue.

NERBUDDA DIVISION.

67. The receipts in this District have risen from Rs. 9,341-13 last year, to Rs. 16,934-6-3 during the present year. I have to thank Colonel Snow, the Deputy Commissioner, for a very full and interesting report. Baitool has great advantages as a Forest District, in possessing a ready market at a high price for small timber and fire-wood in Berar, where none at all exists. Teak thinning has been carried out, and some seed sown; and the state of the forests generally is satisfactory.

District Baitool.

68. The receipts of this District are Rs. 20,975-8-3 against Rs. 14,066-1-6 last year,—an increase of about 33 per cent., which is very satisfactory. This District also has a good market for all jungle produce, especially mowah, lac, and gums; and a revenue derived from fire-wood and building timber in the valley is large. Hoshungabad may always be depended on for realizing a handsome revenue.

District Hoshungabad.

69. In the Nimar District the forest revenue is Rs. 13,223-7-2 this year, against Rs. 8,672-4 last year. This is owing in a great measure to the same causes as have led to the increase in Hoshungabad. Captain Grace, the Deputy Commissioner, with reference to his last report, in which he said that he thought the forest dues were too high, and pressed too hardly upon the people, now offers it as his opinion that all this is entirely changed; this is very satisfactory: the fact is that at first, no doubt, the people did not understand the Forest Rules, or why duty was levied. They now see better the object of Government in conservation, and understand the legitimacy of the demand for a revenue from tracts of forests which are, and always have been, in reality the property of the State, even if at times the immediate right of collecting forest dues has been merged in the general land revenue.

District Nimar.

70. In this District the collections amount to Rs. 1,784, against Rs. 1,331 last year. A Jemadar has been sanctioned for this District, and I dare say we may get a little more out of it next year; but the forest area is small.

District Nursingpoor.

71. The revenue of the Chindwarra Forests for 1866-67 amounts to Rs. 14,104-8-4; in the previous year it amounted to Rs. 3,327-6-6. It is chiefly derived from grass, fire-wood, bamboos, and small building timber, which are floated down the Pench and Kanhan Rivers to Kamptee.

District Chindwarra.

* Since this Report was written, the lease of the Unreserved Forests of Raepoor (without the Lown Jungle) for 1867-68, has been sold in several lots for a total of Rs. 12,766.

NAGPOOR DIVISION.

District Nagpoor.

72. The present is the first year during which the Nagpoor Unreserved Forests have been leased out, the forest revenue having been realized by a cordon of posts from Kelode to Kamptee, and being the produce of wood cut chiefly in the jungles of Seonee and Chindwarra. The total revenue during the present year amounts to Rs. 15,885-15-4, of which Rs. 9,739-15-4 is on account of usufruct leases of jungles producing fire-wood, grass, charcoal, and mowah; Rs. 1,132 is for timber duties; and Rs. 5,014 were realized from the Kamptee Customs' posts before they were withdrawn, which were rendered necessary by completion of the demarcation of the Sautpoora Reserve. No comparison can be then made between the results of the present and former years; but as the produce of the first year's *bonâ fide* revenue, the result appears satisfactory.

District Bhundara.

73. The Unreserved forests of this District stand at the head of all in the Central Provinces in point of revenue, the sale of the usufruct leases having realized Rs. 30,321 for the year ending 30th June 1867. The moiety of this amount, however, not having been paid up when the report was sent in, cannot appear in the accounts of the present year, but will come in next year. This large revenue is, I think, in great degree due to immense forests of mowah *(Bassia latifolia)* trees which cover the District, the flowers of which find a ready sale with the great distillers in Nagpoor and Kamptee. There is also a fair demand for fire-wood and grass, as the plains of Bhundara do not contain much jungle. However, there cannot be the slightest doubt that the very greatest credit is due to Captain Newmarch, the Deputy Commissioner, (as also to Mr. Lawrence, the Settlement Officer), as without most persevering exertions on his part in explaining and making known to the people the object of the leases, as well as in getting the forests well marked off into blocks and mapped, these great results could not ever have been realized; all this has been carefully done in Bhundara. Captain Newmarch reports that the lease-holders have generally been faithful to their agreements, and that the whole revenue has been collected without any difficulty and without defalcations.

District Wurdah.

74. The forest revenue of this District amounts to Rs. 6,999 during the past year, being Rs. 1,953-4 in excess of the previous one. The forests are of no great extent, but are well managed, and there is a ready sale for fire-wood and small timber in the rich cotton Districts, where no forest is found. Mr. Lloyd, the Extra Assistant Commissioner (whose diary has been forwarded to me) seems to have exerted himself in a most praiseworthy manner in attending to forest operations. A considerable amount of babool seed has been sown last year here, and is coming on very well, and much more will be sown next year, with a view to forming fuel plantations.

District Chandah.

75. The revenue of the Chandah Forests has risen during the past year from Rs. 8,393 to Rs. 15,518-8-6. This rise of near 100 per cent. is owing to the praiseworthy and judicious exertions of the Deputy Commissioner, Captain Lucie Smith. Of the above sum, Rs. 9,436 are for duty on mowah; Rs. 1,200 for duty on tussa cocoons; Rs. 1,900 for duty on timber; and Rs. 2,550 for duty on unreserved timber, fire-wood, bamboos, and charcoal; and the remainder from various miscellaneous sources. Except the two forests of Mohorlee and Daba, which, though containing some useful agricultural timber, were not considered worth forming into special reserves, there is no jungle of any importance in Chandah west of the Wynegunga River. The Aheree and Panabaras Teak forests are in the Eastern Zemindaries. I have no doubt that through Captain Smith's exertions, the Chandah Forest revenue will continue to develope itself as much as it has done this year.

District Sironcha.

76. The Sironcha District revenue has risen this year to Rs. 11,968-8, being an increase of Rs. 9,000 on last year. This large income has been realized from the proceeds of the Budrachellum and Rakapilly Talooqs, which formerly were enjoyed by the Zemin-

dar, but now have been decided to be the property of the State. Though the amount is large, it in no way presses on the poorer inhabitants of the District, as it is realized from the fire-wood sold to the Godavery Workshops and to the river steamers. The revenue might be still further increased by reducing the duty on teak, as the present rate prevents it competing in the market with the teak felled in Bustar. This is a course I should in no way recommend, as the Bustar Forests must ere long be worked out, and then our teak will come into the market. Captain Glasfurd has furnished a most interesting Report on the Lower Godavery Forests generally, both those belonging to Government, and also to the Native States, which I shall forward *in extenso* for the consideration of the Officiating Chief Commissioner, as it contains many points of the greatest interest, as well as most valuable information on those subjects. A further increase of revenue might also possibly be obtained, by putting a duty on all teak from the Bustar State and its Dependencies, which may be floated down the River Godavery to Cocanada. This subject shall have my early attention, and a further report on the subject shall be offered.

REMARKS BY THE CONSERVATOR.

77. The system of forest management under District Officers is now thoroughly established, and works with the best results. The great increase in revenue, as well as the manifest improvement in the forests all over the country, testify to the great interest which the Civil Officers take in this branch of the work, as also to the excellent disposition shown by the people generally in the obedience they render to the orders of Government.

78. As regards the five last heads of the Chief Commissioner's Circular No. XLIII of 23rd November 1865, I have only to state, *first*, that the wants of the people are almost entirely met from their own village jungles, and that very few permits are asked for, seldom exceeding 100 or 200 trees in any District for the year; *second*, that convictions for infraction of the Forest Laws are seldom made, and, indeed, the complaints are very few, and vary in different Districts from 2 to 25 for the year. All Officers, however, concur in thinking that the Forest Rules, which are now well known everywhere by the people, are exceedingly well attended to, and seldom broken; *third*, as regards the working of the Forest Laws, there is but one opinion that confiscation is no punishment for felling timber without permission. This rule requires to be amended, and the point has been brought separately to the notice of the Chief Commissioner; *fourth*, Darogahs have been now appointed to all the Forest Districts, and they are generally reported as efficient by the Officers under whom they are placed; some of them, however, are but new to the work. I have been most careful in selecting none but efficient men, and as far as possible, every opportunity of instructing them is taken by the Forest Officers of the several Divisions; *fifth*, compared with last year the revenue of the Unreserved forests has increased 80 per cent., having risen from Rs. 1,07,283-1-4 last year, to Rs. 1,94,731-5 in the present year. This, I think, has proved satisfactory, even beyond our most sanguine expectations, as every year some new District starts up with some new source of revenue not previously developed.

79. The Reports of Captain Glasfurd, Sironcha; Colonel Snow, Baitool; Mr. Low, Nagpoor; Captain Ward, Mundlah; Captain Newmarch, Bhundara; Colonel Dennys, Seonee; and Captain Smith, Chandah,—are forwarded for perusal, as being particularly interesting. Their return is requested, as they have to be forwarded to Divisional Commissioners.

VI.—FINANCIAL RESULTS.

80. The appended Table (A) is the account of revenue for 1866-67, arranged agreeably to the Budget headings:—

		Rs.	A.	P.
To cash receipts, as per appended Table	...	3,67,095	3	2
Add—				
Outstanding debts due to the Department	...	10,271	6	0
Timber in stock valued at	...	2,28,947	0	0
Total assets	...	6,06,313	9	2

besides the dead and live-stock belonging to the Department.

81. The value of timber in stock is as follows :—

	In 1866-67. Rs.
A Division	62,636
C ,, ...	3,200
D ,, ...	14,650
E ,, ...	1,48,461
Total ...	2,28,947

82. The outstanding debts at the close of 1865-66 amounted to Rs. 71,987-1-10. These have all been now recovered except the following, which have been written off the accounts under the requisite sanction :—

	Rs.	A.	P.
1.—Due by the Department Public Works on account of Topla Sâl	3,728	7	0
2.—Dongurthal lease	958	5	4
3.—District Officer, Seonee	138	8	0
4.—Department Public Works, Raepoor	3,750	0	0
5.—Remitted in Nimar	1,632	0	0
Total written off, or remitted ...	10,207	4	4
Total recovered ...	61,779	13	6
Total outstandings for 1865-66 ...	71,987	1	10

The first item was a mere transfer of work from the Department Public Works to the forests. The timber being now collected by the Forest Department, the duty is not charged against the Department Public Works. The second item was written off, as the appeal against the lessee was thrown out by the Commissioner of Jubbulpoor. The third item was represented by the Deputy Commissioner of Seonee as an error of account, and not as a sum really due. The fourth item was a mistaken claim made by Lieutenant Plowden against the Public Works Department, Raepoor; and the last item was remitted by the Chief Commissioner on account of a portion of private forest having been included by mistake in the lease of the Taptee Reserve.

83. Of the stock remaining at the close of 1865-66, valued at Rs. 1,62,598-1-5, timber to the value of Rs. 1,00,650-8-5 has been sold, and the balance to the value of Rs. 61,947-9 is credited to stock in hand. The sale of timber has not been pressed, as heavy demands for new barracks at Saugor will probably spring up next year, and it is a great advantage to have seasoned timber on hand with which to meet such demands.

84. The cash receipts, then, of 1866-67 are made up as follows :—

	Rs.	A.	P.
Outstanding debts	61,779	13	6
Product of Unreserved forests	1,73,447	15	4
Miscellaneous receipts	17,965	1	10
Timber sold	1,13,902	4	6
Total ...	3,67,095	3	2

85. The assets of the Department at the close of 1866-67, then, are as follows :—

	Rs.	A.	P.
Outstanding debts	10,271	6	0
Timber in stock	2,28,947	0	0
Cash as above	3,67,095	3	2
Total assets ...	6,06,313	9	2

86. The Table on the two following pages will show how far each Division and District has contributed to the above, as also its progress since last year :—

Comparative Statement of Forest Receipts for 1866-67 *and* 1865-66.

		Reserved Forests, 1866-67.				Reserved Forests, 1865-66.			
		Rs.	A.	P.	Rs.	Rs.	A.	P.	Rs.
A. Division.	By Cash	1,27,411	1	8	...	46,928	4	3	
(Lieutenant Douglas).	„ Stock	62,636	0	0	...	59,770	13	5	
	„ Outstanding	...			1,90,047 1 8	55,593	7	0	1,62,292 8 8
B. Division.	By Cash	2,907	3	0	...	...			
(Mr. Jacob).	„ Stock	...			...	2,700	0	0	
	„ Outstanding	...			2,907 3 0	3,750	0	0	6,450 0 0
C. Division.	By Cash	5,300	4	4	...	25,867	9	0	
(Mr. Brereton).	„ Stock	3,200	0	0	...	...			
	„ Outstanding	...			8,500 4 4	2,003	4	4	27,870 13 4
D. Division.	By Cash	4,063	11	10	...	2,224	9	0	
(Mr. Cox).	„ Stock	14,650	0	0	...	7,322	8	0	
	„ Outstanding	12	0	0	18,725 11 10	...			9,547 1 0
E. Division.	By Cash	44,567	15	10	...	27,973	13	9	
(Lieutenant Doveton).	„ Stock	1,48,461	0	0	...	92,804	12	0	
	„ Outstanding	108	10	8	1,93,137 10 6	3,006	14	6	1,23,785 8 3
F. Division.	By Cash	...			...	...			
(Captain Jarrett).	„ Stock	...			...	...			
	„ Outstanding	...			...	...			
Total of Reserved Forests	By Cash ... Rs. 1,84,250 A. 4 P. 8								
	„ Stock ... 2,28,947 0 0	...			4,13,317 15 4	...			3,30,945 15 3
	„ Outstanding ... 120 10 8								

Comparative Statement of Forest Receipts for 1866-67 *and* 1865-66—(continued).

Unreserved Forests.			1866-67.			1865-66.		
			Rs.	A.	P.	Rs.	A.	P.
Jubbulpoor ...	By Cash ...		1,995	2	0	420	0	0
Dumoh ...	„ do. ...		10,012	13	9	8,291	15	9
Saugor ...	„ do. ...		12,530	2	0	7,892	9	3
Mundlah ...	„ do. ...	Rs. 5,970 1 7	8,056	1	7	1,588	0	0
	„ Outstanding	„ 2,086 0 0						
Nursingpoor ...	„ Cash ...		1,784	0	0	1,331	0	0
Raepoor ...	„ do. ...	Rs. 890 8 0	1,315	8	0	...		
	„ Outstanding	„ 425 0 0						
Belaspoor ...	„ Cash ...	Rs. 3,635 4 0	3,685	4	0	4	0	0
	„ Outstanding	„ 50 0 0						
Seonee ...	„ Cash ...		15,321	4	6	11,594	4	8
Chindwarra ...	„ do. ...		14,104	8	4	3,327	6	6
Bhundara ...	„ do. ...	Rs. 14,599 5 6	21,851	5	6	1,668	7	3
	„ Outstanding	„ 7,252 0 0						
Nimar ...	„ Cash ...		13,223	7	2	11,352	4	0
Baitool ...	„ do. ...		17,440	6	3	9,341	13	0
Hooshungabad ...	„ do. ...		20,975	8	3	14,066	1	6
Nagpoor ...	„ do. ...		15,885	15	4	16,417	14	8
Wurdah ...	„ do. ...		7,000	0	0	5,046	12	0
Chandah ...	„ do. ...		15,518	8	6	9,954	0	9
Sironcha ...	„ do.	Rs. 11,957 15 4	12,295	10	8	4,986	8	0
	„ Outstanding	„ 337 11 4						
		Rs. A. P.						
Total of Unreserved Forests	By Cash ...	1,82,844 14 6	1,92,995	9	10	1,07,283	1	4
	„ Outstanding...	10,150 11 4						
Total of Reserved Forests as above ...			4,13,317	15	4	3,30,945	15	3
Grand Total ...			6,06,313	9	2	4,37,229	0	7

87. The financial result of the forest operations may therefore be thus shown :—

A.

Creditor.	Rs. A. P.	Debtor.	Rs. A. P.
Cash receipts of the year ...	3,67,095 3 2	Stock in hand at the beginning of the year	1,62,598 1 5
Timber in hand at the end of the year	2,28,947 0 0	Outstanding debts due at the beginning of the year, being Rs. 71,987-1-10, *minus* Rs. 10,207-4-4, otherwise adjusted	61,779 13 6
Outstanding debts due to the Forest Department at end of 1866-67	10,271 6 0	Result of the Forest administration of the year 1866-67 ...	3,81,935 10 3
Total ...	6,06,313 9 2	Total ...	6,06,313 9 2

The total expenditure of the Department for 1866-67 was Rs. 1,27,858-3-5, and the actual results of the year's operations, as set forth above, Rs. 3,81,935-10-3; deducting, then, the one from the other, we have Rs. 2,54,077-6-10 as the actual profit to Government for the year.

88. In 1865-66 the result of the year's operations was Rs. 2,50,660-14-9, and the expenditure Rs. 1,13,498-0-11. The profit to Government last year was Rs. 1,37,162-13-10, against Rs. 2,39,288-2-9 during present year.

89. The outstandings due to the Department are as follows :—

		Rs.	A.	P.
1.	D. Division	12	0	0
2.	E. „	108	10	8
3.	Mundlah District...	2,086	0	0
4.	Raepoor „	425	0	0
5.	Belaspoor „	50	0	0
6.	Bhundara „	7,252	0	0
7.	Sironcha „	337	11	4
	Total ...	10,271	6	0

90. Of the above, Rs. 4,679 have since been lodged in the treasury by the Deputy Commissioner of Bhundara, and Rs. 1,486 in Mundlah are on account of a sale of timber now being adjusted; the rest are for small balances of leases, &c., and are in course of liquidation.

91. It will be seen, then, that the Unreserved forests have, as I anticipated in my last Report, produced a revenue of more than a lakh and a half of Rupees during the current year, while on the total cash transactions of the Department for the year there is a net profit to Government of Rs. 2,54,077-6-10.

VII.—GENERAL.

92. In conclusion, I trust that the steady increase in the forest revenue, as well as the measures which have been taken for forest conservancy, may be looked on as satisfactory. It is also satisfactory that the outstanding balances at length have been reduced to an almost nominal amount. With reference to your review of last year's Report I may now state that the reserves which remained then to be demarcated have now been marked off, or will shortly be finished; masonry pillars have been erected or are in course of erection round most of them, and some new sites for fresh reserves have been examined and will be taken up next year; the renovation of the Garrakotta Rumna has been commenced; regular mapping of the forest reserves by the Topographical Department has been undertaken; and next season an Officer of the Department will be specially deputed for this work; the prevention of fires in the reserves has been attended to, and has been followed in Boree with some success; in the A and E Forest Divisions regular operations in teak-planting under trained Foresters from Scotland have been set on foot; an experimental garden has been commenced on the Puchmurree Hills; fuel-plantations of babool are now springing up in the Wurdah District, where no wood for this purpose exists, and these will be largely added to. In addition to this, the Unreserved forests have been carefully administered by the District Officers; great efforts have been made by these Officers to suppress the evil system of dhyas, and to make the wild hill tribes take to regular cultivation,—efforts which have been followed with marked success. Moreover, fresh Teak Forests have been found by exploring the wild tracts east of the Wynegunga, in Panabaras and Aheree, which will largely add to our timber resources. Indeed there can be no doubt that these Teak Forests extend more or less over the whole tract of country between the plains of Raepoor and the Godavery.

93. And I may say with satisfaction that I feel confident that all this has been carried out without any hardship to the people generally. The forest laws are now well known and well understood everywhere, except, perhaps, in the remoter parts of Mundlah and Raepoor. That they do not bear hardly on the people, and that the duties levied are not too high, is conceded unanimously by all the Deputy Commissioners, except one (Seonee), and that Officer even allows that the people are every day becoming more reconciled to them. In the remoter parts of the country it cannot be expected that wild tribes, who for ages have roamed without let or hinder over the forests, and have felled trees wherever they listed, should all at once yield implicit and intelligent obedience to our regulations. But even ancient customs will yield, and indeed every day are yielding to the judicious treatment of the Officers of Government, and even in the most remote parts of the country, the Gonds and Bygars are beginning to take to the plough. The few complaints which are made of infractions of the forest laws, prove how ready an obedience is given by the people to the orders of Government, and really render the need of a Penal Code for forest offences almost nominal.

94. This year I am happy to be able to speak in terms of praise of all my Assistant Forest Officers, especially as last year I had to comment severely on two of them, who have been since removed from the Department. Of the efficiency of those now present, the Officiating Chief Commissioner will be able to judge from their work as detailed in this Report. Of Lieutenant Doveton's high character and ability as a Forest Officer in all its branches, the Government is well aware; and he has most fully maintained it in spite of much ill-health, brought on solely by over-exertion and exposure, working in unhealthy jungles at all seasons of the year. Lieutenant Douglas has also much distinguished himself by his exertions for the Exhibition during the early part of

the year; and to the efforts which he made I must attribute the success of this Department at the Agra Exhibition, where out of eight silver medals awarded to the Central Provinces, three were carried off by the Forest Department alone. Lieutenant Douglas also, by his steady and diligent attention to forest work, has again shown a very excellent return of revenue; the sale proceeds of timber in his Division alone, during the past year, equalling the whole receipts of the Department on that account in the year 1865-66, even after deducting the amount paid by the East Indian Railway for sleepers. I desire especially to solicit attention to this Officer's unvaried and painstaking attention to his duty, which renders his services always to be thoroughly depended upon, even if they are not so brilliant in character as those of some other Officers. Mr. Jacob has also fully maintained his character as a Forest Officer; and his work has not been less effective, and his services to Government have not been of a less important nature than those of the other two Officers, because they have not been productive of revenue. All these three are excellent Forest Officers. Of the rest, Mr. Cox has done fully as well as I expected of him. He has succeeded in demarcating satisfactorily the Kaleebheet and Rajoboraree Forests, which was a somewhat intricate duty; and he has obtained a fair miscellaneous revenue from the sale of forest produce, and small Teak logs from his reserves. He has effected this, notwithstanding that he has been unfortunate in his Darogah being continually laid up with fever. Mr. Brereton and Captain Jarrett are both quite new to forest work. I am exceedingly well satisfied with both of them; both have shown great attention and intelligence in learning their work, and I feel confident that they will turn out good Forest Officers if their health be spared.

95. Lieutenant Doveton speaks very highly of Mr. Hicks, who has been employed under him in the Boree Forests and on the sleeper work. Mr. Davidson and Mr. Grahame, the Scotch Foresters, who have lately been sent out by the Secretary of State, have also been doing very well; both are very steady and respectable young men, and have applied themselves assiduously to the work given them to superintend; when they acquire a better knowledge of the language they will be more useful; but I have every reason to think that they will prove a most serviceable addition to the forest establishments of these Provinces, and I should be glad to see the number of men of this class gradually and judiciously increased.

96. To the District Officers as a body, I must tender my best thanks for the interest they have taken in forest matters, and for the assistance and information they have ever afforded me in carrying on my duties. The progress of forest conservancy must, I am sure, depend in a very high degree on the support it meets from the Officers of the Civil administration; without their aid and countenance all the efforts of the Departmental Officers would, I know, fail to enlist the sympathy and assistance of the subordinate Civil Officers, and the people generally, in the objects for which the Forest Department has been instituted by Government. With their support everything will go well, and I desire most cordially to acknowledge the thorough heartiness with which such aid has ever been afforded me by all the District Officers of these Provinces. It is my desire to see the two Departments ever as closely united as possible: the ends of Government will thus, I am sure, be best served.

97. Of the Native Subordinate Establishment, Sheikh Moheeodeen, in Mundlah, deserves great praise for his timber operations. He is an excellent, steady man. Sheikh Ahmed also, in the Boree Forest, is reported by Lieutenant Doveton to have worked well. Mooneer Khan, the Darogah at Goaree Ghât, who is a Native Doctor, deserves much praise for the pains he took in collecting, preparing, and classifying the jungle produce and fibres for the Exhibition; and Mahomed Wahid for his good services with regard to the Sautpoora Reserve. Mahomed Padsha has suffered much from ill-health during the past year. In my own Office Establishment I desire to mention my Head Clerk, Soobiah, and Moonshee Unwar Khan, who have both been most useful to me, and have done their duty well.

STATEMENTS.

No. 21.

FOREST DEPARTMENT, CENTRAL PROVINCES.

Annual Summary of Revenue and Expenditure in the different Divisions during the year 1866-67.

Classification.	A.			B.			C.			D.			E.			F.			Total.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Receipts.																					
I.—Sale of timber at Depôts	1,24,845	9	1	2,907	3	0	...			4,426	12	1	34,651	15	7	...			1,66,831	7	9
II.—Sale of timber removed by purchasers ..	4,916	15	5	...			4,317	5	10	871	0	3	7,378	5	0	3,349	15	4	20,833	9	10
III.—Duty on foreign timber	..			..			...			...			...			...			...		
IV.—Permit fees	25,147	1	9	4,090	8	0	26,438	10	0	5,075	10	0	36,393	15	9	46,229	5	9	1,43,375	3	3
V.—Grazing dues	1,827	0	0	435	4	0	...			3,270	7	6	1,904	12	0	0	11	4	7,438	2	10
VI.—Sale of fruits, &c.	1,492	14	0	...			17,734	15	10	203	15	3	230	15	0	346	6	9	20,009	2	10
VII.—Sale of confiscated timber	751	0	0	...			698	15	9	1,135	0	0	298	0	0	110	0	0	2,993	5	9
VIII.—Fines and forfeitures	541	4	6	...			134	8	9	90	3	2	4	0	0	326	0	0	1,096	0	5
IX.—Miscellaneous	181	2	3	....			0	14	6	2,214	2	9	2,121	15	0	...			4,518	2	6
Total Receipts ...	1,59,703	5	0	7,432	15	0	49,325	6	8	17,287	3	0	82,983	14	4	50,362	7	2	3,67,095	3	2
Conservancy and Working.																					
I.—Timber expenses	12,991	4	4	345	6	4	270	8	0	1,702	11	9	11,483	11	7	...			26,793	10	0
II.—Purchases of stock and cattle	63	0	0	..			8	0	0	...			802	2	0	2,940	4	11	873	2	0
III.—Feed and keep of cattle	507	14	2	413	8	11	274	14	0	706	3	9	646	12	10	...			5,489	10	7
IV.—Rent of leased forests	...			...			...			...			...			...			...		
V.—Charges in collecting revenue on grass, &c.	...			...			...			...			...			...			...		
VI.—Plantations	452	4	6	...			212	6	0	...			937	1	1	...			1,601	11	7
VII.—Forest work	548	0	0	...			...			...			402	6	0	...			950	6	0
VIII.—Forest Survey	...			...			...			...			...			...			...		
IX.—Experiments on timber	...			..			..			...			...			...			...		
X.—Communications and buildings	5,262	12	11	74	4	0	228	4	9	69	12	0	5,385	6	5	87	12	4	11,108	4	5
Total Conservancy and Working ...	19,825	3	11	833	3	3	994	0	9	2,478	11	6	19,657	7	11	3,028	1	3	46,816	12	7
Establishments.																					
I.—Salaries	13,808	1	6	3,961	0	0	7,776	15	5	8,027	0	0	13,601	10	3	19,579	12	0	66,754	7	2
II.—Allowances	1,043	7	8	644	7	9	898	15	8	726	12	3	1,761	14	6	3,652	14	8	8,728	8	6
III.—Contingencies	463	14	0	244	10	5	187	10	0	364	1	3	1,054	8	0	3,243	11	6	5,558	7	2
Total Establishments ...	15,315	7	2	4,850	2	2	8,863	9	1	9,117	13	6	16,418	0	9	26,476	6	2	81,041	6	10
Grand Total Expenditure ...	35,140	11	1	5,683	5	5	9,857	9	10	11,596	9	0	36,075	8	8	29,504	7	5	1,27,858	3	5

G. F. PEARSON, *Major,*
Conservr. of Forests, Central Provs.

No. 22.

FOREST DEPARTMENT, CENTRAL PROVINCES.

Annual Abstract Account of the Cash transactions of the Forest Department in the Central Provinces.

DR. CR.

YEAR.	HEADS OF ACCOUNT.	AMOUNT.	YEAR.	HEADS OF ACCOUNT.	AMOUNT.
		Rs. A. P.			Rs. A. P.
1866-67.	To Cash in hand on 1st May 1866	4,785 0 0	1866-67.	By Expenditure of the Department	1,27,858 3 5
	„ Revenue received ...	3,67,095 3 2		„ Remittances to State Treasuries	3,67,095 3 2
	„ Remittances from State Treasuries	1,41,364 11 5		„ Re-payments of deposits	*3,195 9 1
	„ Deposits...	...		„ Advances made ...	20,178 11 3
	„ Advances recovered ...	11,807 2 6		„ Refunds of revenue ...	...
				„ Cash balance in hand on 31st March 1867 ...	6,724 6 2
	Total ...	5,25,052 1 1		Total ...	5,25,052 1 1

* Savings for 1865-66.

Examined and found correct.

G. F. PEARSON, *Major,*
Consvr. of Forests, Central Provs.

Depy. Acctt. Genl., Central Provs.

No. 23.

FOREST DEPARTMENT, CENTRAL PROVINCES.

Annual Statement of Outstandings and Liabilities of the Department on account of Contractors and Disbursers.

DIVISIONS.	DEPARTMENT DEBTOR.			DEPARTMENT CREDITOR.			BALANCES DUE.	
	At commencement of year.	Recoveries in cash, and value of supplies, and work done during year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (outstandings).	By Department (liabilities).
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
A. Division	...	2,663 0 0	2,663 0 0	1,000 0 0	3,056 15 0	4,056 15 0	1,393 15 0	
B. „	..	374 10 9	374 10 9	...	393 4 7	393 4 7	18 9 10	
C. „	...	40 0 0	40 0 0	20 0 0	1,040 0 0	1,060 0 0	1,020 0 0	
D. „	...	834 15 0	834 15 0	568 0 0	3,171 0 0	3,739 0 0	2,904 1 0	
E. „	...	7,894 8 9	7,894 8 9	3,579 3 2	12,517 7 8	16,096 10 10	8,202 2 1	
F. „	..	...	...	...	...	...	...	
Total ..	...	11,807 2 6	11,807 2 6	5,167 3 2	20,178 11 3	25,345 14 5	13,538 11 11	

G. F. PEARSON, *Major,*
Consvr. of Forests, Central Provs.

No. 24.

FOREST DEPARTMENT, CENTRAL PROVINCES.

Statement of Timber brought to Depôts from the different Forest Divisions during 1866-67.

Name of Division.	Forest.	Description of timber.	Pieces.	Cubic feet.	Totals of each Division. Pieces.	Totals of each Division. Cubic feet.	Remarks.
A. Division ...	Jugmundel ...	Teak stumps	275	1,650			
	Chowareegogurh	Ditto	451	1,353			
	Singarpoor ...	Teak logs ...	1,336	3,648			
					2,062	6,651	
B. Division ...	Kumturra ...	Sâl logs ...	143	2,325			
	Nulla ...						
					143	2,325	
C. Division ...	Doomah ...	Teak stumps	800	3,200			
					800	3,200	
D. Division ...	Kaleebheet ...	Teak stumps	134	670			
	Rajoboraree ...	Ditto ...	156	780	290	1,450	
	" ...	Teak poles ...	4,000	...	4,000	...	Not included in cubic measurement.
	Kaleebheet ...	Bamboos ...	19,600				
					19,600	...	Ditto ditto.
E. Division ...	Boree ...	Teak logs ...	4,281	32,097			
	" ...	Sleepers ...	47	188			
	Bowergurh ...	Teak logs ...	1,434	11,458			
	" ..	Sleepers ...	393	1,572			
	Sowleegurh ...	Teak logs ...	3,669	19,063			
	" ...	Sleepers ...	552	2,208			
	Matardeo ...	Teak logs ...	146	1,120			
	Delakaree ...	Sâl sleepers ...	87	348			
					10,609	68,054	
F. Division ...	... ...	.. ...	...	...	...	...	
Total ...	...	...	...	...	37,504	81,680	

G. F. PEARSON, *Major,*
Consvr. of Forests, Central Provs.

No. 25.

FOREST DEPARTMENT, CENTRAL PROVINCES.

Annual Timber Account for 1866-67.

Particulars.	Pieces.	Totals.
I.—Stock in hand at the following Depôts at the commencement of the year :—		
A. Division — Depôts in Beejoragogurh ...	12,129	
A. Division — Jugmundel... ...	482	
A. Division — Chowareegogurh ...	698	
A. Division — Singarpoor... ...	833	
A. Division — Deoree	1,239	
A. Division — Goaree Ghât ...	2,135	
A. Division — Behra „ ...	249	
		17,765
D. Division — Kaleebheet ...	124	
D. Division — Rajoboraree ...	2,007	
		2,131
E. Division — Bowergurh ... logs	3,623	
E. Division — „ ...sleepers	773	
E. Division — Sowleegurh ... logs	629	
E. Division — „ .. sleepers	599	
E. Division — Different kind of wood	4,510	
E. Division — Kuttunga ... logs	311	
E. Division — „ .. sleepers	3,466	
E. Division — Hirrapala ... logs	1,979	
E. Division — Joli ... „	1,009	
E. Division — Bori ... „	813	
E. Division — Delakaree, Sâl sleepers	704	
		18,416
II.—Timbers received at Depôts from the forests during 1866-67, as per Statement No. 24—		
A. Division	2,062	
B. „	143	
C. „	800	
D. „	23,890	Including bamboos and teak poles.
E. „	10,609	
F. „	...	
		37,504
Total pieces	...	75,816

Particulars.	Pieces.	Totals.
I.—Timber removed by purchasers from Depôts—		
A. Division. Total logs sold ...	9,832	
B Division. „ ...	143	
D. Division. Total logs sold ...	258	
D. Division. Bamboos ... 1,000		
D. Division. Sactees ... 525		
D. Division.	1,525	
E. Division. Total logs sold ...	1,402	
		13,160
II.—Timber lost—		
A. Division—during floating operation	23	
D. Division. ...	3	
		26
III.—Stock in hand at the close of the year at the following Depôts :—		
A. Division — Beejoragogurh ..	5,050	
A. Division — Chowareegogurh ...	924	
A. Division — Singarpoor ...	168	
A. Division — Goaree Ghât ...	3,581	
A. Division — Behra „ ...	249	
		9,972
C. Division ... Doomah ...	800	
		800
D. Division — Kaleebheet ..	124	
D. Division — Rajoboraree ...	2,036	
D. Division — Kaleebheet(bamboos)	18,600	
D. Division — Hurda (sactees) ...	3,475	
		24,235
E. Division ... — Bowergurh logs	4,492	
E. Division ... — „ sleepers	1,166	
E. Division ... — Sowleegurh logs	4,298	
E. Division ... — „ sleepers	1,151	
E. Division ... — Different kinds of wood ...	4,510	
E. Division ... — Kuttunga logs	311	
E. Division ... — „ ... sleepers	3,466	
E. Division ... — Bori ... logs	7,245	
E. Division ... — „ ... sleepers	47	
E. Division ... — Matardeo ... logs	146	
E. Division ... — Delakaree Sâl sleepers	791	
		27,623
Total pieces ..	...	75,816

G. F. PEARSON, *Major,*
Consvr. of Forests, Central Provs.

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No. 26.

FOREST DEPARTMENT, CENTRAL PROVINCES.

Statement showing the amount realized on account of the different classes of timber sold during 1866-67.

Divisions.	Number of Logs sold.	Cubical contents.	Amount realized and due on account of timber sold.	Average amount per log.	Average cubical contents of logs.	Average amount per 100 cubic feet.
		C. feet.	Rs. A. P.	Rs. A. P.	C. feet.	Rs. A. P.
A.	9,832	59,168	72,980 9 1	7 6 9	6·0	123 5 6
B.	143	2,325	2,907 3 0	20 5 3	16·25	125 0 7
C.	...	..	...	...	...	...
D.	258	1,237	3,555 4 1	13 12 5	4·79	187 6 6
E	1,402	17,881	34,496 7 0	24 9 8	12·75	192 14 9
F	...	...	..	...	...	...
Total ...	11,635	80,611	1,13,939 7 2	9 12 8	6·92	141 5 6
Deduct amount due, but not realized during the year			120 10 8			
Balance			1,13,818 12 6			
Add collected by District Officers...			1,064 3 3			
Sale of bamboos and teak-poles in D. Division			83 8 0			
Add amount realized on account of former years			51,865 0 0			
Total shown as revenue on account of timber sales			1,66,831 7 9			

Remarks.

	Pieces.
Timber sold in previous years remaining unremoved at the commencement of the year ...	11,635
Timber sold during year	11,635
Total ...	...
Timber remaining unremoved at the close of the year	
Balance removed from Depôts by purchasers during the year	11,635

G. F. PEARSON, *Major,*
Consvr. of Forests, Central Provinces.

No. 27.

FOREST DEPARTMENT, CENTRAL PROVINCES.

Statement showing the amount expended on account of timber received from the different Forest Divisions during 1866-67.

Names of Divisions.	Number of logs.	Cubical contents.	Timber expenses.	Conservancy expenses, cost of establishment, &c., of the Department, excluding Direction.	Total amount expended, excluding Direction.	Average amount paid per log.	Average cubical contents per log.	Average amount paid per 100 cubic feet.
		Cubic feet.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	C. feet.	Rs. A. P.
A.	2,062	6,651	12,991 4 4	22,149 6 9	35,140 11 1	17 0 8	3·2¾	528 5 7
B.	143	2,325	345 6 4	5,337 15 1	5,683 5 5	39 11 10	16·3	244 7 0
C.	800	3,200	270 8 0	9,587 1 10	9,857 9 10	12 5 1	4·0	308 0 9
D.	290	1,450	1,702 11 9	9,893 13 3	11,596 9 0	39 15 9	5·0	799 12 2
E	9,530	68,054	11,483 11 7	24,591 13 1	36,075 8 8	3 6 4	6·4	53 0 1
Sleepers .	1,079							
F.	...	...	.. ...	7,777 8 4	7,777 8 4	...	...	...
Total ...	13,904	81,680	26,793 10 0	79,337 10 4	1,06,131 4 4			
Add Direction charges...	...	...	...	...	21,726 15 1			
Grand Total ...	13,904	81,680	26,793 10 0	79,337 10 4	1,27,858 3 5	9 3 1	5·10½	156 8 6

Remarks.

Abstract rates per 100 cubi ect.

	1865-66. Rs. A. P.	1866-67. Rs. A. P.
Timber expenses	25 12 10	32 12 10
Conservancy and Establishment ...	76 11 6	97 2 1
Direction	14 1 7	26 9 7
Total ...	116 9 11	156 8 6

G. F. PEARSON, *Major,*
Consvr of Forests, Central Provs.

No. 28.

FOREST DEPARTMENT, CENTRAL PROVINCES.

Annual Account of Forest Revenue for the year 1866-67.

	Rs.	A.	P.
Receipts	3,67,095	3	2
Expenditure	1,27,858	3	5
Surplus or Deficit ...	2,39,236	15	9
Add (or subtract) difference between Assets and Liabilities at the commencement and close of the year	14,840	7	1
Net Revenue ...	2,54,077	6	10

NOTE.—Besides the above sums, which show the actual transactions on timber brought into the Depôts, the value of timber in various states in the forests and in transit may be approximately estimated at Rupees

Detail of difference between Assets and Liabilities at the commencement and close of the year.

	At the commencement of the year.			At the close of the year.			Difference					
							In favour of the year.			Against the year.		
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.
Value of timber and other stock	1,62,598	1	5	2,28,947	0	0	66,348	14	7			
Outstandings on account of sales and excess payments to Contractors	61,779	13	6	10,271	6	0	...			51,508	7	6
Total Assets ...	2,24,377	14	11	2,39,218	6	0	66,348	14	7	51,508	7	6
Deduct Liabilities ...	...			...			...			...		
Balance ...	...			...			14,840	7	1	...		

G. F. PEARSON, *Major,*
Consvr. of Forests, Central Provs.

ORDERS BY THE GOVERNMENT OF INDIA.

No. 290 F, dated 14th August, 1867.

From—COLONEL C. H. DICKENS, R. A., *Secy. to Govt. of India, P. W. Dept.,*
To—Chief Commissioner of Central Provinces.

I am directed to acknowledge the receipt of your letter No. $\frac{2820}{258}$, dated 13th July, forwarding the Progress Report of the Forest Department in the Central Provinces for the year 1866-67, with your review thereon.

2. The Report is, on the whole, very satisfactory, and will be circulated to Local Governments and Administrations, together with the Reports on the Aheree, Panabaras, and other Forests in the Eastern and Southern Districts of the Central Provinces, and the orders thereon.

3. Certain matters mentioned in the Report have been left to the Inspector General of Forests to settle with the Conservator; but on the following points I am to communicate to you the observations and orders of the Government of India.

4. In the matter of Reserved forests, the demarcation is not yet complete, but good progress has evidently been made.

In the Eastern (B) Division, it is proposed to form into a new reserve the Sohawa Forest in the south-east corner of the Raepoor District, which is said to contain much fine Sâl along its southern boundary.

In para. 30 of the Report for 1865-66 the Deputy Commissioner is said to have reported that this forest could not be touched under the terms of the existing settlement. There appears to have been a change since then, from your having decided upon its provisional formation into a Reserve. This decision has the approval of His Excellency in Council. I am also to enquire whether part of the Lown Forest, situated in the same Division, and described in para. 6 of the Conservator's Report, should not be reserved.

In the Southern (F) Division, the two forests of Daba and Mohorlee, which were intended originally to be reserved, have been given up. Major Pearson appears to be so much impressed with the value of the Aheree Teak Forests, as to consider all the other forests in that Division comparatively worthless. But I am to observe that Aheree is not Government property, and it might be useful carefully to husband all resources in the Division which are the property of Government. It is, however, apparent from Major Pearson's statement, that the value of these two forests was over-rated in previous Reports.

In para. 43 of the Report for 1865-66 it was said that the number of Reserves was 25. Adding to these Sohawa, and deducting Daba and Mohorlee, there remain now 24.

As far as can be gathered from the Report, four Reserves had not been demarcated at the time it was written, *viz.* :—

Puchmurree Division (E)—Ootumghât and Sonebudr,

Southern Division (F)—Ashtee,

Eastern Division (B)—Sohawa;

The two Sâl Forests in the Deinwah Valley and in Toplah not requiring, in the Conservator's opinion, any demarcation.

This work having progressed so far, it will be useful to have a statement attached to each Annual Report showing the Reserves demarcated, or not demarcated, their area, and remarks concerning the work done in each during the year. The aggregate area of Reserves already demarcated has not yet been reported to Government.

5. With respect to the protection and improvement of the forests, the Conservator reports in paras. 37 and 38 of his Report that, with one exception, fires have been excluded from the Boree Forests, and that in portions of this Reserve there have been no fires for the past three years. This appears to His Excellency in Council to be a great and satisfactory step in advance.

It appears, however, that fires were excluded in the Boree District, not so much with a view to improve the forest as to protect some timber lying scattered about. His Excellency in Council would be glad if you would consider whether attempts to keep out fires might not, with similar success, be made in other forests also.

The completion of the road from the Toplah Forests to Mundlah, to open out the important Sâl Forests south of the Nerbudda River, is very satisfactory.

In regard to Dhya cultivation, the Conservator reports that, in the Puchmurree Division (E), the practice has been entirely stopped in the Reserves; and in para. 63 he states that, in the Mundlah District, it will in course of years die out.

I am to direct attention to Clause VII of the Forest Rules for the Central Provinces, which distinctly prohibits Dhya cultivation in *all Reserves.* It does not appear from the Reports before the Government of India whether this rule has everywhere been enforced.

In connection with this subject, I am also directed to draw attention to another provision of Rule VII, prohibiting the grazing of cattle in the Reserved forests. From para. 100 of the Report for 1865-66 it appeared that the Reserves in the Puchmurree Division had been opened to cattle. The admission of cattle into the Forest Reserves cannot but have a most injurious effect on the growth of young trees. It appears to His Excellency in Council that, although cattle may be allowed to have access to watering places in the forest, grazing in Reserves should be absolutely prohibited, until the forest is old enough to be safe from the attacks of cows, sheep, and goats.

6. As far as can be judged from the data furnished in Section IV of the Report on the yield of the forests, the resources of the Reserves have been carefully husbanded. Most of the timber removed seems to have consisted of old felled logs and stumps of trees cut in former times.

In the Toplah and Deinwah Forests alone there have been felling operations on a larger scale. His Excellency in Council trusts that, in these and other forests, the selection of the trees to be felled will be made in accordance with a well-devised plan of operations.

7. Respecting the management of the Unreserved forests, no special remarks seem called for. The Conservator states that the system of managing these forests under District Officers is now thoroughly established, and works with the best results. Whatever be its merits, the best plan would appear to be to allow the present system a fair trial without undue interference, provided no rights and privileges are allowed to grow up which may hereafter hamper the Government if it should be found necessary to extend the area of the Forest Reserves, or to introduce a more strict management of the Unreserved forests.

8. In para. 78 it is said regarding the working of the Forest Laws, that confiscation is no punishment for felling timber without permission. I am to state that this defect in the Forest Act has been brought to the notice of Government in the Legislative Department, with the view to introduce an amendment of the Act.

9. The financial results exhibited in Section VI are in every respect satisfactory.

Compared with 1865-66 they stand as follows:—

	1866-67.	1865-66.
	Rs.	Rs.
Actual receipts	3,67,095	2,02,644
Expenditure	1,27,858	1,13,498
Surplus ...	2,39,237	89,146
Add difference between value of timber on hand at the commencement and end of the year ...	66,349	81,547
Total ...	3,05,586	1,70,693
Deduct difference between outstandings at the commencement and close of the year	51,509	43,737
Net revenue ...	2,54,077	1,26,956

Judging from the data given in the Report, these would appear to be the correct figures; there are some errors in the figures given in para. 20 of your review. The net revenue of 1865-66 has been reduced by Rs. 10,207. In last year's Report, the outstandings at the close of the year were given as Rs. 71,987. Of this sum, however, the above amount (Rs. 10,207) was never recovered, but remitted or written off; and in the present Report the outstandings at the commencement of the year were entered at Rs. 61,780. The amounts entered as outstandings at the close of one, and at the commencement of the next, year, should always be the same.

The figures for 1866-67 are for 11 months only, and the steady and considerable increase of the Forest revenue in the Central Provinces is very satisfactory. One-half of the income, His Excellency in Council observes, is derived from the Unreserved forests.

The reduction of outstanding debts due to the Department is also satisfactory; and further, it is satisfactory that out of Rs. 71,987 which were due on the 30th April 1866, Rs. 61,780 have been recovered, the balance (Rs. 10,207) having been either written off or remitted. The outstandings on the 30th April 1867 amounted to Rs. 10,271.

10. His Excellency in Council has, with great satisfaction, noticed the praise bestowed by you on Major Pearson and the Officers and Subordinates under his orders. In your expressions of commendation, His Excellency in Council cordially concurs, and is gratified to observe that the District Officers have, as a body, performed their Forest duties so well.

11. It now remains to mention a few matters of a formal nature:—

The designation of the Forest Divisions as A, B, C, D, E and F is inconvenient; it is not easy to bear in mind what these letters refer to. I am to suggest whether these Forest Divisions might not be designated in some more appropriate manner.

Of the seven sections into which the Forest Report is divided, Section I may still be retained to give the results of the examination of forest tracts not sufficiently explored. His Excellency in Council has observed that you commence your review of the Report by saying that the Government forests of these Provinces have now been everywhere explored, and that their timber-bearing qualities are known. Nevertheless, much may still remain to be done before a complete knowledge of all Government forests has been attained.

Sections II, III, and IV might hereafter be devoted exclusively to the management of the Reserved forests; and, if the Conservator should prefer doing so, they might be included into one section with three sub-divisions—

1st.—Demarcation and boundaries of forests.

2nd.—Protection and improvement of forests.

3rd.—Selection of trees felled, and yield of the forests.

12. The financial results and timber operations of the Department are well illustrated by the Tabular Statements which accompany the Report. I am, however, to notice the following omissions and errors:—

The annual abstract account of cash transactions (Form No. 22) is not signed by the Deputy Accountant General of the Province as prescribed. This is important.

In the annual statement of the outstandings and liabilities of the Department (Statement No. 23), the amounts due to the Department on account of Contractors and Disbursers are given as Rs. 13,538. From the detailed statements of receipts in Reserved and Unreserved forests, on pages 15 and 16 of the Report, the outstandings on account of revenue not realized during the year are given as follows:—

	Rs.	A.
Reserved	120	11
Unreserved	10,150	11
Total ...	10,271	6

This total is the figure entered as outstandings due to the Department in the Statement (No. 28), which exhibits the annual account of Forest revenue: whereas it should have been—

	Rs.
	10,271
	13,538
Total ...	23,809

In future Reports the full amount due to the Department by Contractors, and on account of revenue not realized during the year, might be entered. Attention has been drawn above to the discrepancy between the outstandings at the close of 1865-66 and at the commencement of 1866-67. A similar discrepancy was noticed in para. 51 of Dr. Cleghorn's review of the Report for 1865-66.

13. I am to request that, in future Reports, some explanation may be given of the valuation of timber on hand. From Statement No. 25 it appears that 38,312 pieces of timber were in Depôt at the commencement, and 62,630 at the close of the year. In Statement No. 28, the value of the first-named quantity is given at Rs. 1,62,598, that of the latter at Rs. 2,28,947. It should hereafter be explained at what rates the timber was valued.

In Statement No. 27, exhibiting the amounts expended on account of timber received from the different Forest Divisions, the whole expenditure of the Department is charged to this timber, although by the sale of it one portion only of the revenue was realized. Besides the timber expenses, a proportionate quota only of the Departmental charges should be entered, the balance being against the Unreserved forests, which are not worked on Government account. This will reduce the amounts chargeable to the timber from the Reserved forests to about one-half, say to Rs. 4-10 per log, and Rs. 80 per 100 cubic feet; the rates realized by sale being Rs. 9-12 per log, and Rs. 141.5 per 100 cubic feet.

These are very high rates, showing sufficiently the necessity for strict conservancy in the forests of the Central Provinces.

REVIEWS, REPORTS, ORDERS, &C., ON THE AHEREE AND PANABARAS FORESTS.

No. $\frac{841}{69}$, dated 8th March, 1867.

From—C. BERNARD, Esq., *Secy. to Chief Commr. of Central Provinces,*

To—*Secretary to Government of India, P. W. Dept.*

I am directed to submit, for the information and orders of His Excellency the Viceroy in Council, the accompanying Report by Major Pearson, upon the Teak forests of Aheree in the Chandah District.

2. It was always known that Teak forests existed in the Aheree direction; and the Chief Commissioner, when on tour there last year, ascertained that the Zemindar, who owns the forests, was willing that they should be worked by Government. Major Pearson's explorations have now made it apparent that there are at least two lakhs of trees, containing about 3 or 400,000 tons of timbers standing on a comparatively small area of 40 square miles, within 6 or 8 miles of the Pranheeta* River. Out of this forest at least 50 or 60,000 trees are ready for the axe.

* The main feeder of the Godavery formed by the junction of the Wynegunga, Pynegunga, and Wurdah.

3. No "Dhya" cultivation is ever practised in this forest, nor is there any obstacle to its proper working, save a felling license held by Bhugwan Doss, timber dealer and banker of Hyderabad. This license is an old arrangement made years ago before the annexation of the Nagpoor territories; and though much to be regretted, the matter cannot now be helped. All that is possible is to introduce a *moderate* conservation, so far as may be consistent with Bhugwan Doss' felling license; for the Chief of Aheree must of course keep faith with the license. On the other hand, Bhugwan Doss' license is no reason why there should be wastage and causeless destruction of the timber. Any tendency in that direction must at once be stopped.

4. Bhugwan Doss' felling license, it will be observed, has only four more years to run. On its expiry, the Chief Commissioner will endeavour to make some arrangement, similar to that made for the Deelakaree Forest, which arrangement works satisfactorily.

5. Major Pearson's propositions for working the Aheree Forest are briefly; that—

I.—The entire control of the Bemaram, Jilmillee, and Talwarra Forests should be undertaken by the Forest Department.

II.—That the Zemindar of Aheree should receive a royalty of 3 annas a cubic foot on all Teak or Sheshum felled on his Estate.

III.—That Bhugwan Doss, whose license to cut timber in Aheree has still four years to run, should be allowed to cut trees marked for felling under Forest Rules.

IV.—That the forest be regularly mapped and surveyed, and worked by rotation.

V.—That an Establishment, costing Rs. 184, be sanctioned for the conservancy of the forest, and for the watching of Bhugwan Doss' proceedings.

6. I am to solicit that the sanction of Government may be accorded to these propositions. The Establishment will be experimental, and subject to

report after one year. Its cost will be within the Budget limit; and it will be absolutely required to map and survey the forests, and to watch the licensed timber dealer, Bhugwan Doss.

7. In conclusion, I am to recommend to the favourable notice of His Excellency the Viceroy in Council, the exertions Major Pearson has made, and the work he has done in this matter.

No. $\frac{A}{286}$, dated 19th February, 1867.

From—MAJOR G. F. PEARSON, *Conservator of Forests, Central Provinces,*
To—*Secretary to Chief Commissioner of Central Provinces,*

I have the honour herewith to forward, for the information of the Chief Commissioner, a Report (with a map) on the Aheree Teak forests.

2. I would solicit the sanction of the Chief Commissioner to send Captain Jarret at once to commence a valuation survey of this most valuable forest, in order that it may be placed under a correct system of working before mischief overtakes it.

3. The Zemindar and his people all seem most anxious to see their forests put on a proper footing; and as, if the plan I have proposed in my Report is sanctioned, a large revenue will accrue to Government, even after the payment of the proposed royalty to the Zemindar, I would ask sanction for the following establishment for the forest:—

	Rs.
1 Darogah on Rs. 50 (to rise in the regular gradation list of Darogahs)	50
3 Ameens (for survey), @ Rs. 25 each	75
1 Duffadar	15
1 „	12
2 Peons or Watchers, @ Rs. 7 each	14
3 „ „ „ 6 „	18
Total ...	184 per mensem.

When the valuation survey is completed, the Ameens may be done away with. An English Writer will also be required hereafter to keep the accounts, who, however, should be charged against the work; and when the interest of Bhugwan Doss in the forests cease, the establishment for conservation may be very much further reduced. As long as this interest lasts, his procedings will require to be most carefully watched.

4. I would also ask sanction to spend not more than Rs. 1,000 in sinking wells about the Aheree Forests, as the water is so scanty and so bad there that no work can go on till this is done. I will provide the money from the Budget.

5. Until the sanction of Government is obtained, I can provide for the payment of the establishment from working charges, if desired by the Chief Commissioner.

Dated 19th February, 1867.

Memo. by MAJOR G. F. PEARSON, *Conservator of Forests, Central Provinces, on the Aheree Teak Forests.*

General description.—These magnificent Teak forests are situated on and around a block of hills a few miles to the east of the Pranheeta River, and near the foot of what is commonly known as the 3rd Barrier, which terminates at Dewulmurree. The accompanying sketch map will exhibit the position of the forests and their contents, and may be accepted as tolerably correct, though both the places and distances are only approximately fixed, as it was difficult to obtain bearings of all the points, and it was impossible to obtain a satisfactory view of the hills to sketch in their contour.

2. These forests are the property of the Aheree Zemindar, who is a Gond. He is connected by marriage with the Panabaras Zemindar. The people of the District are chiefly Munnahwar Gonds,—a class very inferior to those of the Sautpooras, both in energy and physique. To this happily, however, may be attributed the fact that these noble forests have escaped devastation by Dhyas. As it is, there are in few villages more than four or five families, and they have confined themselves to small clearings of the scrub jungle close to their homes for cultivation. There is no trace of any Dhya among the valuable forests in the hills.

3. The whole of this part of the country, even from above the junction of the Wynegunga with the Wurdah Rivers, is covered with a vast forest of Teak. But, generally speaking, in the Plains it is both unsound, badly developed and crooked. The soil is, for the most part, a light coloured clay, and, no doubt, holds a good deal of moisture in the wet season, which does not drain off; and it is to this that I attribute the stunted condition of the trees generally. It is true that in places there are signs of much wanton mischief, but this is chiefly confined to the neighbourhood of the foot-paths, and the whole surface of the country has certainly never been covered with noble Teak trees as has been supposed by some persons.

4. *Of the Teak forests proper.*—The Teak forests, properly so called, are contained in and around the block of hills which lies between the villages of Korsenna, Bemaram, Jilmillee, and Tulwarra. Formerly, I believe, the forest extended westward as far as Indarun and Poosgapilly. Indeed, the whole surface of the country between those places and Bemaram is covered with the stumps of felled trees and decaying logs; but all this part has long since been cleared; and the large trees are now confined to the hills, and a portion of the plains around Korsenna and Tulwarra, and to a space of one mile at furthest from the foot of the hills on the western side. On the eastern side the Teak seldom extends beyond the limits of the hills themselves. The whole area may be about 42 square miles, *viz.*, 30 square miles within the hills, and about 12 square miles, or perhaps rather more, below their limits. There is a small separate forest, also of excellent quality, below and around the block of hills east of Tulwarra.

5. *System of examination.*—My system of examination was thus:—I marched round the out-skirts of the forest, and made excursions into the hills to test their value. In this way I obtained a knowledge of the limits of the forest, and its value in different places. The hills to the north are of trap, and the debris around them a rich black loam; to the west they seemed principally to consist of granite, and (I believe) grey syenite, and the soil around them is a grey-coloured clay.

6. *Contents of the forests.*—The finest and largest trees are certainly found on the northern ridge of the northernmost hill, but all the trees on this hill are of noble size and quality, and I noticed that the seeds of the trees here were much larger in size than those of other parts of the forest; on the upper portion of the ridge the trees *average* at least 10 feet in girth, and 50 to 60 feet in height; lower down, though smaller, they are taller and more numerous. On the southern of hills near Jilmillee, the trees, though of good girth, are much shorter, but more numerous than the first; and the trees about Bemaram, on the western slopes, are very similar both in quality and numbers to those above Jilmillee. The whole range is covered with Teak from end to end, and on the hills themselves little else except Teak, and in places some fair sized Sheshum or Sissoo *(Dalbergia latifolia)* up to 6, and even 8 feet in girth is to be seen. Below the hills the Teak trees are much hampered with huge creepers, and here and there are found associated with it *Pentaptera* (Saj) two sorts; *Nauclea* (Hardoo and Kyem) two sorts; *Conocarpus* (Dowra); *Lagerstrœmia,* (Lendya); *Bassia* (Mowa); *Diospyros* (Tendoo); and bamboos. To the north and west, the lower forests are coverd with high reed grass, but there is little brush-wood, except on the hills. On the hills themselves, the grass, though finer in quality, is 6 feet high, and the bamboos are proportionally luxuriant. On the southern range, the grass is less troublesome, and there are more creepers and brush-wood in the forest generally.

7. *Result of surveys for valuation.*—I will now give a few particulars of the quality of the forest. On the limits of one acre on the north slope of the northern hill (70 yards × 70 yards), I counted and measured the following trees :—

No. of trees.	Girth.	Height.	Estimated gross weight of timber.
1	8 feet 9 inches	70 feet	2½
2	from 7 to 8 feet	55 „	3½
5	„ 6 to 7 „	10 „	8
5	„ 5 to 6 „	42 „	5
3	„ 4 to 5 „	30 „	2
2	„ 3 to 4 „	20 „	1
18 trees, or	... ...	...	22 tons.

Total 18 trees, weighing 22 tons of solid timber.

8. On the upper portion of the same spur, I measured the following trees, all within a little more than 100 yards along the ridge, *viz* :—

	Girth.	Height.	
One tree	10 feet 10 inches	60 feet.	
„	15 „ 3 „	40 „	(not quite sound)
„	10 „ 4 „	50 „	
„	11 „ 0 „	50 „	
„	13 „ 0 „	50 „	
„	10 „ 4 „	40 „	

Or a total girth of 71 feet for six trees. Most of these trees must have weighed 6 tons each.

9. On the southern range, near Jilmillee, I counted and measured, on the low ridge joining two high hills, the following trees on the space of one acre :—

2 trees, from 7 to 8 feet girth.
8 „ „ 6 to 7 „
8 „ „ 5 to 6 „
4 „ „ 4 to 5 „
6 „ „ 3 to 4 „

or 28 trees in all, of which 10 were first, and 15 were second class trees. The average height of the trees was from 25 to 35 feet.

10. On the large hill immediately to the west of this, I counted and measured on one square acre 5 first class trees as follows :—

1 tree, girth 9 feet 8 inches.
1 „ „ 8 „ 2 „ (not quite sound).
1 „ „ 7 „ 6 „
1 „ „ 6 „ 7 „
1 „ „ 6 „ 0 „

and 10 more second class trees, the height of the trees being about the same as in the last case. The gross weight of timber in either of the latter cases is hardly inferior to that on the Northern Hill, though the trees are not quite so straight and well grown.

11. On the western range, north of Beemaram, I counted on a space 300 yards by 50 yards, 19 first class, and 41 second and third class trees. This is at the rate of 3,990 and 8,600 to the square mile, or 6½ and 14½ (nearly) to the acre of each class respectively; and the result of several other enumerations gave from 15 to somewhat above 20 trees per acre, of which fully one-third were first class trees. The first class trees range from 6 to 8 feet in girth at 6 feet from the ground; a few reach 10 feet; and I measured one tree of 11 feet 7 inches in girth. There is a fair sprinkling of good Sissoo trees here, which are very valuable for Arsenal purposes and furniture. I measured Sissoo trees of 7 feet 9 inches, 6 feet 7 inches, and two of 6 feet in girth, respectively. There is also a fine forest of thriving young Teak trees of 3 to 4 feet in girth in these hills. The value of the forest is about on a par with that above Jilmillee.

12. I do not think that any of the above places were unfairly selected; they were generally taken quite at random, and the chief motive which made me count the trees there was freedom from grass, brush-wood, and bamboos.

I do not say that the whole area of the hills is covered to this extent, as in some places they are bare rocks, where nothing will grow; and in some places there is a deficiency of earth where the timber is small, unsound, and of small value. But I think that the above gives no unfair idea of the general number and quality of the trees, which, I may truly say, form a noble Teak forest from one end of the hills to the other.

13. If, then, to sum up the result, we review the foregoing averages, we may, I think, fix a general one of 19 trees per acre, which will give a total of 12,000 trees per square mile; and if we allow 30 square miles as the area of the hill forests, we shall have a total number of 360,000 trees in all, of which 120,000 may be estimated as first class trees; and even if this number be halved, there still remain—

First class trees	60,000
Second and third class trees	120,000
Total ...	180,000

which I will safely give as my estimate of the contents of these forests. I am myself fully convinced that it falls but little short of the first-named sum. The hills, however, should be regularly mapped out previous to working operations being commenced, and the correct amount of timber will then be ascertained.

14. *Forests below the hills.*—Below the hills, from the absence of brush and underwood, it is easy to make valuation surveys with tolerable accuracy. The result of four surveys showed an average of about 750 first class trees, 1,500 second class trees, and 1,000 third class trees to the square mile. (It must be remembered that felling operations have been carried on heavily in these lower forests). On 12 square miles this, then, would give—

First class trees	9,000
Second and third class trees	30,000
Total ...	39,000

15. The small forest, east of Tulwarra, has not been yet touched with the axe. It is, perhaps, about 4 square miles in extent. It, perhaps, contains about—

First class trees	5,000
Second and third class trees	10,000
Total ...	15,000

16. *Total contents.*—We have, then, the following results :—

	Trees, 1st Class.	Trees, 2nd and 3rd Classes.
In the large block of hills between Tulwarra and Poosgapilly	60,000	120,000
In the forest round the foot of the large block ...	9,000	30,000
Ditto east of Tulwarra	5,000	10,000
Estimated total contents of Aheree Forests ...	74,000	160,000

Of the above, if some of the first class trees might be well spared for the present, there are, in all parts of the forest, a number of second class trees which might be felled at once, as they have passed their prime; and it may, I think, be safely assumed that there are from 75,000 to 100,000 trees in these forests at the present time fit for the axe.

17. *Sheshum trees.*—Besides the above, I dare say 3,000 Sheshum trees fit for felling may be found. They are scattered irregularly over the forests in all parts. A reference to the sketch map, which accompanies this Report, will show the position where each survey was made, and the value of the forest calculated to the square mile. Where the forest was thick, from want of assistance, it was not possible to count both second and third class trees separately.

18. *Fourth class trees and saplings.*—As regards fourth class trees and saplings on the hills where the older Teak trees are thick and close together, (as is usually the case in all old Teak forests) scarcely a single young tree or sapling is to be seen. In the forests below the hills, especially along the water-courses, and where felling operations have been carried on, the young trees and saplings are abundant and most thriving. There is a fine young forest springing up under the Western Hills especially.

19. *Defects in felling at present.*—As might be expected, operations have been carried on in a most wasteful manner here by the Native merchant at Hyderabad, Bhugwan Dass, to whom the Chief, years ago, leased the right of felling, and whose lease has yet four years to run. The trees are usually felled by his Agents 8 or 10 feet from the base; a log of convenient size is then chopped out of the centre of them, and the rest of the valuable tree is left to rot, or be burnt in the annual fires.

20. The logs which seem to be most in demand for the market are about 20 feet long by 15 inches by 12 inches, and contain each from 18 to 25 cubic feet of timber. The consequence is that, to obtain logs of this size, trees about 5½ feet in girth at 6 feet from the ground are felled. Trees of this size below the hills in five cases out of six are growing trees, and should not be felled at all. They contain much sap-wood, and the timber cannot compare for durability with that of the older trees in the hills.

21. *Excellent quality of the timber.*—I noticed particularly that so excellent is the Teak of these forests that, even in logs which had lain exposed to the weather for three and four years *after being squared*, there was often not the slightest crack or warp to be detected. To my mind also this speaks volumes in favour of the system of felling *without girdling*, as every square log of Burmah Teak, which I have seen brought up from Bombay for Railway purposes, is heavily cracked.

22. I have above endeavoured to give some faint idea of what I believe to be one of the very finest Teak forests in India, and certainly one which, considering the immense amount of timber that has been taken out of it, has suffered as little as any. In order to preserve it from the wanton destruction which, if proper precautions be not observed, the present heavy demand for Teak everywhere must entail, it appears to me that it is absolutely necessary that Government should at once carry out the interference which has been contemplated by the Chief Commissioner in favour of regular conservation. This, I am informed by Captain Smith, the Deputy Commissioner of Chandah, (who most fully enters into my views and concurs with me in the matter) can be effected with the cordial concurrence of the Zemindar.

23. In order to effect any good, it will be obvious that a proper forest survey, with correct valuation of the timber, must be made, and the forest divided into blocks, and its contents correctly ascertained. A regular system of working by rotation must then be at once instituted, which *must be rigidly adhered to*, and Bhugwan Dass (the Hyderabad Banker, to whom the forest is leased) must be required *absolutely to conform to it*, and to cut only such trees as are marked by the Government Officers.

24. To this end, then, I earnestly recommend that Captain Jarrett, the Assistant Conservator, F. Division, be deputed to commence the work of mapping out and dividing off the forest, and that a sufficient establishment be allowed him for the purpose, as the Inspector General of Forests is, I know, most strongly of opinion (and most rightly, so I am sure) that correct valuation surveys of the forest are of primary importance in order to work on a sound basis; and this forest is so very valuable that it would be a great error to commence with mistakes.

25. For the rest, Government should undertake direct work here which will be the greatest benefit to the Zemindar himself, and to the whole Zemindary by pouring money into it where none now reaches; while the wants of the public will be supplied abundantly with fine timber at a reasonable price. The Deputy Commissioner of Chandah will be best able to settle with the Zemindar the terms on which Government should undertake this work; but

I may state that, I think, it should be on the basis of paying the Zemindar a royalty on all timber cut by the Forest Department; and that the felling of the timber and eventual disposal of it should rest with Government. I think it is most desirable that the amount of royalty paid on the timber should not be fixed *too low*, in order that Timber Contractors should not be able to tell the Zemindar that Government is driving a harder bargain with him than they would do; and I would suggest that the rate be fixed at 3 annas a cubic foot, the same as that charged in the Government forests. If thought fit, the Zemindar might, out of this, be called on to contribute hereafter (though I would not recommend doing it at first) some portion of the establishment's pay.

26. As regards the quota of timber which the lessee should be allowed to cut until the expiry of his lease, I believe it has been fixed at the same as that which is cut by Government; but I am inclined to think, when he is called on to adhere to Forest Rules in working, that he will avail himself of this privilege to a very small extent.

27. The above system, if carried out, would tend much to raise the financial position of the Chiefship which now, for 45 years, has sent out its riches in the shape of timber into the market, the royalties of which are not really paid to the Chief in cash, but are credited by Bhugwan Dass as interest on an old debtor and creditor account of money borrowed by the Chief at some former period. Thus the Chiefship receives back nothing in return for what it sends away. I calculate that if 4,000 logs of Teak have been taken away annually, as is stated, since the forest has been worked, that it realized in the Hyderabad market not less than 75 lakhs of Rupees, or three-fourths of a million sterling. This, of course, only represents the gross proceeds from which, in any estimate of profit, the cost of carriage from Aheree to Hyderabad must be deducted. But after every abatement, the profit realized by those who have during these years imported the timber into Hyderabad, must be very considerable.

28. As regards the forests in other parts of the Aheree District, especially those between Ghote and Arpilly, and extending down to Boree, I do not think that anything is required except to desire the Zemindar to warn the people against wantonly damaging the Teak trees by lopping them for the purpose of getting the leaves, and also to spare the saplings. No girth can be prescribed here for the Teak to be felled, for *all* is small and stunted, and will never grow better. At present it may be certainly cut when required, and will no doubt find a ready sale in the Khalsa Districts west of the Wynegunga.

29. *Other reserved trees of no value here.*—Except in the forests around Bemaram, Khorsenna, and Tulwarra (where all the trees of every sort attain noble dimensions), the Eyne, Kowa, Hurdoo, Bejasal, and other reserved trees are small and stunted like the Teak; and they are utterly valueless as timber, when there is so much Teak to be had everywhere. It would be a good thing if the greater part of them were cleared off the face of the country. The sole exception, I think, is the Unjun *(Hardwickia binata)* which abounds, and is very fine in places along the banks of the Pranheeta, and I do not notice that this tree is ever felled by the people at present.

Extract from the Chief Commissioner's Orders, (No. 799—69, dated 6th March 1867), on the Report on the Aheree Forests.

I am to express the Chief Commissioner's approval of all the measures you propose, and to authorize their being carried out *at once*, through yourself, in communication with the Deputy Commissioner. Any negociations that may be made with Bhugwan Dass should be carried on by the Deputy Commissioner.

2. Your propositions would appear to be briefly these—

I.—That the entire control of the Bemaram, Jilmillee, and Tulwarra Forests should be undertaken by the Forest Department.

II.—That the Zemindar should receive a royalty of 3 annas a cubic foot for every Teak or Sheshum tree felled on his Estate.

III.—That Bhugwan Dass, whose license to cut timber in Aheree has still four years to run, should be allowed to cut trees marked for felling under Forest Rules.

IV.—That the forest be regularly mapped and surveyed, and worked by rotation.

V.—That an Establishment, costing Rs. 184 a month, be entertained for carrying out these recommendations in anticipation of formal sanction.

No. 141 F, dated 6th April, 1867.

From—Colonel C. H. Dickens, R. A., *Secy. to Govt. of India, P. W. Dept.,*
To—*Chief Commissioner of Central Provinces.*

I am directed to acknowledge the receipt of your letter No. 841—69, dated 8th March 1867, forwarding a Report by Major Pearson, on the Teak Forests of Aheree in the Chanda District.

2. The detailed information now furnished regarding the character and extent of this valuable forest, has been read with much interest. It is highly satisfactory to learn that a compact and nearly unbroken forest exists upon an affluent of the Godavery in which there are 60,000 Teak trees, 6 feet in girth, and 100,000 trees from 3 to 6 feet in girth. A supply of timber for the renewal of sleepers on the Nagpoor Branch of the Great Indian Peninsula Railway may be looked for from this source.

3. The Governor General in Council approves of your measures for bringing these valuable forests under the direct management of the Forest Department. It is observed that a felling license is held by a Native timber dealer and banker of Hyderabad, which expires four years hence. A satisfactory lease cannot, therefore, be arranged at present; but, as you observe, this is no reason why waste and careless destruction of timber should be allowed under the existing license. The conservancy should be as strict as circumstances permit.

4. The following measures proposed by Major Pearson, and approved by you, are sanctioned :—

I.—That the entire control of the Bemaram, Jilmillee, and Tulwarra Forests be undertaken by the Forest Department.

II.—That the Zemindar of Aheree should receive a seigniorage of 3 annas a cubic foot on all Teak or Sheshum felled on his Estate.

III.—That the license-holder be allowed to cut trees marked for felling under Forest Rules.

IV.—That the forest be regularly mapped and surveyed, and worked by rotation.

V.—That an Establishment, at a cost of Rs. 184 per mensem, be employed for the conservancy and surveying of the forest, and for watching the license-holder's proceedings. The Establishment to be experimental, and subject to report after one year, and the cost to be within the Budget provision.

5. A Tabular Statement of the Establishment should be submitted for sanction in the Financial Department.

6. His Excellency in Council is of opinion that an experienced Officer should be charged with the duty of initiating a good working plan, which should be submitted to the Government of India.

7. In conclusion, I am to express the satisfaction of the Government of India at the services rendered by Major Pearson in bringing to light the extent and character of the Aheree Zemindary Forests, as well as the Panabaras Forests referred to in your Secretary's No. $\frac{844}{74}$ of the 8th March 1867. Both Reports will be forwarded to the Secretary of State.

No. $\frac{844}{74}$, dated 8th March, 1867.

From—C. BERNARD, Esq., *Secy. to Chief Commr. of Central Provinces,*

To—Secretary to Government of India, P. W. Dept.

I am directed to submit, for the information and orders of His Excellency the Viceroy in Council, the accompanying copy of a Report by Major Pearson, Conservator of Forests, on his recent exploration of the Panabaras Forests.

2. The Report shows that Major Pearson has placed, beyond doubt, the existence of really considerable forests of fine Teak in the Panabaras Zemindary. He has also secured for the Forest Department the monopoly of the Teak and Sheshum in the Zemindary, subject to certain conditions. The principal condition is, that the Zemindar is to be paid 3 annas a cubic foot for all Teak and Sheshum trees felled on his Estates.

3. In view to the proper working of this forest, the Conservator recommends that their charge be transferred to the B, or Chutteesghur Assistant Conservator; and he proposes to erect sawing machinery of some kind at Darwah in the centre of the Panabaras tract.

4. The Chief Commissioner has sanctioned the proposed transfer, inasmuch as the Panabaras Forest can best be worked from its eastern side. He has also approved the conditions of the agreement with the Zemindar; and he has instructed Major Pearson to prepare detailed estimates of the cost of the machinery he would propose. Unless the machines be very expensive, their cost would soon be covered by the difference in cost of leading unsquared logs and sawn timbers.

5. The Chief Commissioner has further directed that, whatever establishments may be required for felling and cutting up Teak (working charges), no subordinate or inferior European agency is to be employed in wild tracts like Panabaras or Aheree, as there is risk not only that the health of such persons would suffer, but also that, at a distance from supervision, they should not understand how to deal with the unsophisticated forest people.

6. I am to express the Chief Commissioner's hope that His Excellency the Viceroy in Council may be pleased to approve what has been done.

No. 230 A, dated 21st January, 1867.

From—MAJOR G. F. PEARSON, *Consrvr. of Forests, Central Provinces,*

To—Secretary to Chief Commissioner of Central Provinces.

I have the honour to submit, for the information of the Chief Commissioner, a Report on the Panabaras Forest.

2. It will be seen from this Memorandum that, contrary to previous belief, Panabaras still contains most valuable Teak forests; indeed, I may say that there is more Teak collected there, within a few square miles, than during six years' exploration I have seen in all the rest of the Central Provinces together.

3. As the great, and, indeed, almost sole, injury which these forests have suffered has been through injudicious working, it seems to me that the point of most importance at present is to get the selection and felling of the timber into our own hands, and out of those of the Contractors, and if the Engineer Department will second our efforts, by dealing with the Forest Department, instead of with Contractors, I can promise that, if the arrangements which I recommend are sanctioned, they shall be furnished with timber of such a quality as has not been seen in Nagpoor for many years. The rest must be managed by kind and liberal treatment of the Thakoor, who, if he is treated with consideration, appears perfectly willing to deal fairly with Government.

4. When I first entered the Panabaras Zemindary, every movement I made was looked on with suspicion; I was assured that all the timber was felled, though I saw it standing before my eyes; and every attempt was made to draw mé from the east side of the District, where it remains, to the neighbourhood of Panabaras itself, where it has been nearly all felled. The Thakoor's brother also came to my camp, and continually sent off reports of all I did to Panabaras. But I very soon overcame all this distrust, and by kind and conciliatory treatment,

though at the same time showing that I was not to be put off the scent I was on, I both found out all I wanted, and at the same time became great friends with them.

5. Knowing the Gonds as I do, I am not surprised that I was looked on with suspicion, especially as several little circumstances, foolish in themselves, and easily explained away, had raised a fear in their minds (as they afterwards openly told me) that their whole forest rights would soon be taken from them, and that by prohibiting clearings in the dense thicket of jungle which covers their valley, all cultivation would be rendered impossible. I have no doubt that these suspicions were much fostered and exaggerated by designing persons for their own ends, probably with a view of preventing the Officers of Government from getting to know of the timber. I, however, took upon myself to assure the Thakoor that, being a Zemindar,* his forest rights would certainly never be impugned, and that he would assuredly find the Government more liberal to deal with than any timber Contractors.

6. After some days, and much persuading talk, I got the Thakoor to agree to the following terms, subject to the Chief Commissioner's sanction; and if that be accorded, I trust that the terms may be communicated to the Deputy Commissioner of Chanda, in order that a proper agreement may be drawn up by him with the Thakoor, when he visits the Zemindary on his tour.

7. The proposed terms are as follows:—

1st.—Government to purchase Teak timber from the Zemindar at the rate of 3 annas a cubic foot; the money to be paid when the trees are felled.

2nd.—No trees, except Teak and Sheshum, to be prohibited to ryots.

3rd.—Dhyas or clearings for cultivation not to be interfered with within the plains; but no Dhyas to be made in the Teak bearing hills; and if a Teak tree is anywhere met with, it is to be spared.

4th.—The right to the usufruct of the grass, bamboos, and other ordinary jungle produce will be guaranteed to the Zemindar.

5th.—On these conditions, the right of selecting and felling Teak trees for export will rest with the British Government and its Forest Officers.

6th.—Existing contracts, if properly drawn up, will be allowed to be executed by Contractors, if fulfilled within a reasonable period, from old logs, but no new logs to be felled by them.

8. As regards the first of these terms, I do not think Government can object to pay that price; as regards the smaller logs, it is the same as Government themselves charge; but for the larger logs I have allowed less in proportion, as they will be more expensive to work; as regards the second and third terms, I have fully explained my views in the accompanying Memorandum; and as regards the fourth, I have merely entered it for the consolation of the Zemindar, who cannot fully be persuaded that his forest rights are safe.

9. I trust that the Chief Commissioner may feel satisfied with what I have done in this matter, and may approve of it, as I may truly say that the result, such as it is, has only been obtained by much patience and firmness, and by continually showing consideration for little prejudices and objections on the part of a people, the greater part of whom are as little acquainted with the true character of their rulers, as if they lived in the centre of Africa. I am sure, however, that I eventually quite got round their prejudices, and earned their confidence and good-will.

10. I cannot conclude this Report without expressing how much I owe to Mr. Jacob for the aid he gave me in the hard work of exploring the Dorwa Hills. He returned, however, from there into his own District, and did not go with me to Panabaras itself. If these forests are worked, it should be from the Raepoor side, as they are comparatively very accessible from the north and east; whereas from the open country of Chanda they are separated by a belt of the densest jungle, nearly 70 miles in breadth, which I have ever seen in these Provinces.

* NOTE.—The word "Zemindar" is used in the Central Provinces' sense of the term. It has much the same meaning as "Talookdar" in some parts of India.

Dated 23rd January, 1867.

Memo. by MAJOR G. F. PEARSON, *Conservator of Forests, Central Provinces, on the Teak Forests in the Panabaras Zemindary.*

I entered the Panabaras Zemindary from the eastern side through Lohara. This Estate is about 25 or 30 miles in extent from east to west, and about the same from north to south. It lies in the very centre of the dense belt of jungles which skirts the left bank of the Wynegunga River almost from its source in Seonee to the sea.

2. The main features of the Pergunnah are a vast block of hills in the south-east corner of it around Darwah, extending, though diminishing in size, up to Gotar Tolah in the north, near which they culminate in another smaller block of hills; while on the west side of the District there is a range of precipitous ridges running nearly north and south. The space between these, which is from 15 to 20 miles across, is divided by a vast plain, intersected in places by low ridges of hills and streams which flow into the Wynegunga. The whole of this valley, except in the clearings around the villages, is covered with a dense mass of scrub jungle, consisting principally of Eyne, Dowra, Kowa, Koombee, and other jungle trees common to these Provinces, and with high grass. The Thakoor and inhabitants are Gonds, and the latter are unusually wretched in appearance. The District must be excessively unhealthy; the food of the people of the poorest description; and I should think the mortality very great. They do not, however, seem to drink to excess. I append a sketch map of the District to this Memorandum.

NOTE.—The Panabaras Zemindary occupies the blank space on the maps between 20° and 21° north latitude. The 81° parallel of east longitude runs through it. "Chowzy" is to its immediate north, and "Lohotta" just south. The village of Panabaras is 8 miles north of "Manpoor." The above three names are found on most good maps.

3. As a general rule, the Teak seems to be confined to the hills both in the south-east corner, and along the west side of the District, and along the streams where the seeds have been deposited by the floods and taken root. But, as a rule, through the vast area of scrub forest in the valley, hardly a Teak tree is to be seen.

4. I think I may confidently say that, along the whole west side of the District, the best Teak trees in accessible localities have been thoroughly cleared away by the timber dealers, though there is still much wood in the shape of old and crooked trees available; but in the huge block of hills in the south-east corner, and along the streams below them, there is still a noble forest of the finest trees, almost untouched by the axe of the wood-cutter, and of the greatest value if properly worked.

5. I will now proceed to detail my examination of this forest. An inspection of the sketch map will give a fair idea of the country described. The whole of the great hill south of Darwah, which is from 4 to 5 miles in length, and 2 miles in breadth, is covered with a thicket of bamboos full of large Teak trees; the spur south of it again is similarly covered, but with timber of smaller size; the Teak on the plain and on the western slopes of the hills has been worked, apparently for Railway sleepers, as numbers of immature trees are felled, and many 10-foot lengths are still lying on the ground. The whole of the fine forest on the top of the hill is totally untouched by the axe. From the density of the bamboos there is hardly any grass on the hill, and through this circumstance, as also from the total absence of Dhyas, the trees for the most part have escaped all damage from fire. The area of this block of forest cannot be much less than 20 square miles. This area is very unequally covered with Teak; but after a careful and laborious examination, Mr. Jacob and myself came to the conclusion that there were, in this block of hills, at least 8,000 to 10,000 Teak trees fit for felling from 5 to 10 feet in girth, and from 20 to 50 feet in length of bole, besides many thousands of young and promising trees.

6. Again, all along the nullah from Darwah northwards and eastwards, for about 2 miles, there is a belt of noble Teak trees. Many of them above 9, and even 10 feet in girth; several were measured of 12 feet in girth and

upwards; one of 13 feet 8 inches; and one of 15 feet, with a length of bole varying from 25 to 50 feet. The total is about 2,000 trees along this nullah, most of them mature trees.

7. Again, to the north-west of Kurriah Gondee, about 3 or 4 miles to the north of Darwah, the hills are covered with a most promising forest of young trees. There is no sign of any large trees or old stumps here, and it seems as if the Teak had but comparatively of late years taken hold here. The trees vary from saplings of a few inches to 3½ or 4 feet in girth; and Mr. Jacob and myself estimated the number on this block of hills as probably at least 20,000.

8. At the present early season of the year, and in so dense a thicket of grass and bamboos, any surveys conducted on the German forest principle would not be any real guide as to the total amount of timber on these hills, especially as the whole tendency of the trees is to grow in clumps, and without the smallest regularity. I would, however, observe that the finest trees are on the top of the hills, especially along the ridges; that the trees on the sides are far fewer and of smaller growth; and that those along the foot of the hills are nearly all young trees, but of a very promising character. By far the largest and finest trees, however, are found in the belt of the nullah north and east of Darwah. At a more advanced season of the year it would be quite possible to count all the trees above a certain size correctly.

9. As some guide, however, now to the quality of this forest, I will give the following details:—

10. On the top of the hill south of Darwah, on the space of one acre, I measured 10 trees as follows:—

2	trees above	8 feet in girth.		
3	„	between 6 and 7	feet	in girth.
2	„	„ 5 and 6	„	„
3	„	from 4 to 5	„	„

these measurements being taken round the bole 6 feet from the ground.

11. Many of these trees were 40 feet up to the first branch, and the average length of log would not have been under 30 feet. I calculate that they averaged 60 cubic feet of timber each, or 600 cubic feet in all, equivalent to 12 tons of timber from one acre.

12. On another similar spot I counted no less than 21 trees. Of these—

3	trees	measured 6 to 7	feet	in girth.
8	„	„ 4 to 5	„	„
10	„	„ 3 to 4	„	„

The three first could not have contained less than 80 cubic feet each, or a total of 240 cubic feet timber; the eight second class trees contained at least 30 cubic feet each, or 240 feet more; and ten third class trees 15 cubic feet each, or 150 feet, besides tops and lops. This gives a total of 630 cubic feet, or near 12½ tons of timber to the acre.

13. On a third acre I counted 13 trees, all from 4 feet to 6 feet in girth, all fine straight trees, and perfectly sound, and yielding 50 cubic feet of timber on the average per tree, or total weight of 6½ tons of timber.

14. Besides the above, I measured on the hill the following isolated trees as specimens, all being perfectly sound and symetrical:—

Two trees between 8 and 9 feet in girth, and about 45 feet to the first branch.

One tree	7	feet	5	inches	by 40 feet.
„ „	7	„	2	„	by 40 „
„ „	6	„	10	„	by 40 „

and many more trees over 6 feet girth, and at the same time perfectly sound and symetrical.

15. But the finest trees are along the nullah; here were measured one tree, 12 feet in girth by 50 feet; one tree, 13 feet 8 inches in girth, at 10 feet from the ground, by 45 feet; one tree, 12 feet 5 inches in girth by 35 feet;

one tree, 10 feet 3 inches in girth by 40 feet. This last was a very noble tree, and had a straight bole of the same size up to the branches. One tree 11 feet in girth by 60 feet; all the above being sound trees, and the height calculated by the probable length of log. Some of them must have contained from 150 to 200 cubic feet of timber.

16. I measured one tree of 15 feet girth and 40 feet high; but it was an old tree and unsound on one side. I think, perhaps, the finest tree I saw was a dead tree just beyond the Panabaras boundary in Lohara, which measured 12 feet 8 inches in girth, and would have given a good log at 70 or 80 feet in length. I desired Mr. Jacob to try and purchase, or beg this tree from the Thakoor of Lohara, and, when opportunity occurred, to fell it and cut it up.

17. The other jungle trees are, strange to say, exceedingly inferior all over the Pergunnah; there is very little wood worth anything, except for fire-wood, even if it were near a market. There is no doubt much more Teak is scattered over the hills, but the best forest now remaining is certainly that described above.

18. I especially wish to observe that I did not see a single Dhya in the Teak forests, and, indeed, hardly any one anywhere, as the clearings for cultivation cannot be looked on as Dhyas. I saw, in fact, little or no wilful damage done to the Teak in these forests at all, and the clearings for cultivation on the plains, which here are worked with bullocks in the usual way, and not after the manner practised by the Sautpoora Gonds, must not be confounded with the Dhya cultivation which is so much to be reprobated. Indeed, it may be truly said that the more the surface of the country can be cleared, the better it will be for the salubrity of the climate and the prosperity of the people, and the more possible it will be to work the forests in it.

19. At present there will be considerable difficulties about taking up work in these forests, but I do not say for a moment that these difficulties are insuperable. I have little doubt that it would be most profitable in the end, and in every way most advantageous to set up a steam-saw at Darwah, and cut up all the wood there into suitable scantlings, as then the work might all be got through within the healthy season; and, moreover, the saving in carriage, which would accrue from carting only squared timber for so long a distance over bad roads, would soon re-pay the cost of setting it up, even if it cost Rs. 20,000. It would be easy to fix a site for it where many thousand logs could be collected within a couple of miles. The timidity and distrust of the Thakoor and of the people generally may be overcome by judicious and kindly treatment; but without the assistance of machinery I should fear that the unhealthiness of the place in the cold weather, and its excessive heat in the hot season, and the scantiness of the population, together with great want of water in the hills, will always act as draw-backs to getting work done with regularity. However, the hills are well adapted for timber-slides, and carts can travel from their foot to Nagpoor, or, indeed, in any direction. In this particular, these forests far surpass those of Baitool.

20. When I first entered the District, I found all my proceedings were watched with great suspicion, and though I saw the timber before my eyes, I was constantly told that everything had been felled long ago, as was told to Lieutenant Noverre last year. The next day after my arrival, the Thakoor's brother came and remained with my camp as he said for civility; but evidently to watch me, and he continually tried to get me to leave the hills and go to Panabaras. I soon, however, succeeded in re-assuring him, and by the time I had finished my examination and reached Panabaras, we were great friends.

21. I am strongly convinced that all that is required for the conservation of these forests is a proper selection of trees to be felled, as the only injury done to them has been by the injudicious and wasteful operations of the timber dealers. This might easily be effected if Executive Engineers received a distinct order not to give contracts for the supply of Teak to the timber merchants, but to make known their wants to the Forest Department at least 18 months in advance. It is sudden orders for the delivery of timber which, as

they do not give time for the selection of trees and proper working, operate so injuriously on the forests. If time is not given, then, whether Contractors are employed, or whoever carries out the work, the nearest and most accessible trees are obliged to be taken, and the interests of conservancy consequently suffer.

22. At present, the only contract for timber is one which the Thakoor has given to Naheemodeen for 800 logs. This, if regularly drawn up, must, I suppose, be carried out; but I would strongly advise, if possible, that the Thakoor should be advised only to allow him to remove such trees as have been previously felled in the forests; and, moreover, that no further contract should ever be given without reference to the Forest Department,—a course which the Thakoor told me he was perfectly ready to adopt. I noticed that the logs he is now carting away, though about 4 feet in girth when squared, are all immaturely grown, and contain much sap-wood. The timber is not then of half the value of that contained in old well grown trees.

23. If, then, the power of selecting and felling the trees be placed in the hands of the Forest Department by the Thakoor, I believe the sole cause of injury, which has existed in these forests, would be removed. When the trees are once felled, they can be either removed by Contractors, or by the direct Agency of the Forest Department, as may seem best.

24. But I would strongly deprecate any direct interference otherwise with the forests. There is no immediate necessity for it, as I have explained above, and I have no doubt that by degrees, as the people get used to us, any further improvements for the general good of the forests will be readily carried out by the Thakoor. It must be remembered that till Lieutenant Noverre's visit last year, no European had visited these jungles, and people of this class are naturally suspicious as to what we are about. Above all, nothing should be done to prevent the Thakoor from supposing that it will be displeasing to Government, or prejudicial to the forests, that he should clear the valley for cultivation; nor should any trees, except Teak and Sheshum, be prohibited from being felled at this distance from a market; they are valueless, even if they afforded far better timber than they do.

Extract from the Chief Commissioner's orders (No. 842—74, dated 8th March 1867), on the Report of the Panabaras Forests.

The terms on which the agreement with the Rajah should be made are those entered in your 7th para. with one modification, suggested by yourself, as to the rate of payment for timber. The agreement will then stand thus.

2. On the following conditions, the right of selecting and felling Teak trees for export beyond Panabaras will rest with the Forest Department :—

Condition I.—The Zemindar shall be paid a royalty of 3 annas a cubic foot on all timber cut by the Forest Department on his lands.

Condition II.—The Zemindar's ryots shall be allowed to cut, without interference from the Forest Department, any timber except Teak and Sheshum.

Condition III.—No Dhyas or clearnings for cultivation shall be made on the Teak-bearing hills; but such clearings may be made in the plains without interference from Forest Officers.

Condition IV.—The Zemindar's full rights to the usufruct of the grass, bamboos, and other ordinary jungle produce, shall be respected.

Condition V.—Existing contracts, if properly drawn up, shall be allowed to be executed by Contractors, if fulfilled within a reasonable time, from old logs already felled.

3. These conditions seem to the Chief Commissioner to be favourable for the Zemindar, and they are accordingly approved.

4. The Secretary, Public Works Department, has instructed his Officers to receive from you *all* the Teak timber you can supply at Nagpoor and Kamptee, and to pay the carriage you may charge, in cash, granting you a transfer credit for the price of the timber.

5. The Chief Commissioner approves generally your proposition for setting up sawing machinery at Dorwah. But you should submit a detailed statement of your requirements, so soon as you shall have made full enquiries. Meanwhile, wells can be dug, and work begun at Panabaras.

No. 142 F, dated 6th April, 1867.

From—COLONEL C. H. DICKENS, R. A., *Secy. to Govt. of India, P. W. Dept.,*
To—Chief Commissioner of Central Provinces.

I am directed to acknowledge the receipt of your letter No. 844—74, dated 8th March 1867, forwarding an interesting Report by Major Pearson, the Conservator, on his recent exploration of the Panabaras Forest. The Report is very satisfactory, and the existence of this valuable forest of Teak and Sissoo will be reported for the information of the Secretary of State.

2. I am to communicate the general approval of the Governor General in Council to the measures sanctioned by you, and to request that the plan of working the forests may be reported to the Government of India.

3. In respect to Major Pearson's proposal to establish saw-machinery in the forests, I am directed to state that, before sanctioning this measure, His Excellency in Council desires to have an approximate enumeration of the trees fit to cut, and an estimate of the cost of bringing the timber to market.

No. $\frac{1092}{102}$, dated 25th March, 1867.

From—C. BERNARD, Esq., *Secy. to Chief Commr. of Central Provinces,*
To—Secretary to Government of India, P. W. Dept.

In continuation of my letters marginally noted, submitting manuscript papers regarding the Teak forests of Aheree and Panabaras, I am directed to submit six copies of the Conservator's General Report upon the forests of the Southern Divison, and on the Raepoor Forests. The Special Reports on Aheree and Panabaras are printed as Appendices to Major Pearson's General Report.

No. 841—69, dated 8th March 1867.
„ 844—74, „ 8th „ „

2. I am to solicit the approval of His Excellency the Viceroy in Council to the several orders embodied in my letter No. 840—74 of the 8th March 1867, which forms the first of the printed papers.

No. 313 A, dated 26th February, 1867.

From—MAJOR G. F. PEARSON, *Consvr. of Forests, Central Provinces,*
To—Secy. to Chief Commissioner of Central Provinces.

I have the honour to submit, for the information of the Chief Commissioner, the result of my recent enquiry into the probable sources of forest revenue, and into the timber resources generally of the Eastern and Southern Districts of these Provinces.

Forests of the B. Division.

2. As regards the Raepoor District, the Khalsa Forests are as follows :—

1.—The Kumturra Nullah Forest.
2.— „ Hateebaree Hill.
3.— „ Lown Jungle.
4.— „ Balode and Sunjaree Jungles.
5.— „ Dullee Hill.
6.— „ Sohawa Forest.

These forests surround the great Raepoor plain ; but they are mixed up to a large extent with forests belonging to neighbouring Zemindars, which,

being exceedingly extensive, will always contend with and keep down the value of forest produce from the Khalsa Jungles. It seems to me, however, that, although within Government limits, there is not much large timber; yet enough remains to be capable, if properly managed, of furnishing, combined with other forest produce, a very fair revenue.

3. The Kumturra Nullah and Hateebaree Hill have been reported on before, and I believe have been seen by the Chief Commissioner himself. I have recently called on Mr. Jacob to send me an exact report of their contents.

Kumturra Nullah Forest Reserve.

4. The lower portion of the Kumturra Nullah Forest, for several miles above its junction with the Jonk, is all in the Deoree Zemindary: the upper portion, which is Khalsa (and which has been demarcated for a Reserve) contains, by Mr. Jacob's estimate, 1,350 Sâl trees fit for felling. Of these, 240 have been felled by Lieutenant Plowden, and 460 more have been girdled, and are for the most part dead, leaving only 650 trees untouched. This is rather too large a proportion of trees to be felled at once, and more care must be taken in future selections for felling.

Size of Sâl trees.

5. The Sâl trees in the Kumturra Nullah Reserve are of very fine growth. Mr. Jacob mentions having measured several of from 8 feet to 9½ feet girth, with a length of bole of 60 feet.

Young trees.

6. The under-growth of Sâl in this forest is very promising; and there are several thousand young trees springing up, as in all Sâl forests there is no other timber of any value. The area of this forest is about 24 square miles.

7. As regards leasing the lower portion of the Kumturra Nullah Forest from the Deoree Zemindar, and extending the Reserve into it, I have desired Mr. Jacob to see what terms he can get the Zemindar to agree to, and also to examine into the value of the forest itself. I am, however, doubtful if Sâl timber carried to Nagpoor from this forest will offer any margin of profit whatever at present prices; and until the results of an experiment in preparing sleepers, which Mr. Jacob is now making, are known, I cannot say whether I should recommend, or, indeed, whether Government could afford to allow the Zemindar anything for his wood.

Hateebaree Hill Reserve.

8. As regards the Hateebaree Hill, Mr. Jacob reports that there are about 500 Teak trees of a girth over 4 feet in the forest, as computed by Lieutenant Forsyth, with much young Teak of a promising character extending down to the Jonk River. Here I have decided with Mr. Jacob on forming Teak plantations in three abandoned villages, where there is good promise of success, if the young plants are not destroyed by the wild buffaloes. The area of the Reserve, including plantations, will be 9 square miles.

Other timber in Sonekhan.

9. There is a fair amount of good timber on the north side of the Gadaghât range of hills bounding the Sonekan Valley, especially some fine Dhamin and Sâl; but it belongs to Mr. Meik's property, and is not available to us. This is the timber referred to in Lieutenant Forsyth's Report. The junglee Pahar, which is on the west side of the Jonk, above Sonekan, is covered with a dense thicket of bamboos, grass, and scrub jungle, but contains no good timber whatever, or anything worth reserving.

The Lown Jungle.

10. The Lown Jungle has not yet been examined. Mr. Jacob will proceed at once there on the completion of some work on which he is now engaged; but I believe that, although valuable from its situation as a source of supply of ordinary wood for agricultural purposes, and the wants of the rural population, it contains no good timber whatever. It is at present held by a Tahootdar, who, it seems, is entitled to the revenue: but it will revert to Government at the settlement, and fall into the Unreserved forests.

11. In his last Annual Report, Lieutenant Plowden recommended the formation of forest Reserves in Balode and Sunjaree, in the Dullee Hill, Lohara, and in the Sohawa Forests. Of the above, the four first all lie in the south-west corner of the Raepoor District, between it and the Panabaras Zemindary, and around the sources of the Sheonath River. I took an opportunity of examining them personally on my way from Raepoor through Panabaras and Aheree to Chanda.

Other Reserves recommended by Lieutenant Plowden.

12. Of these, the forests of Lohara and the Dullee Hill are the only ones worthy of notice. Lohara is a Zemindary lying in the midst of the Balode, Sunjaree, and Dullee Jungles; and as the Zemindar has strictly prohibited the felling of Teak on his property, and otherwise seems fully alive to the development of his Forest revenue, it does not at present seem necessary to take any further steps on the part of Government in the matter.

Lohara Forests,

13. The forests of the Dullee Hill I examined personally with care. They contain a fair amount of second-rate timber, an average proportion of which is Teak. I saw about 35 Teak trees of from 3 feet to 4½ feet in girth, and furnishing logs from 6 to 12 inches square by 12 to 18 feet in length, along the east foot of the hill; and from about 100 to 120 more of the same class in passing over the hill. These trees are full-grown, and will not increase in size. Many of them already are deteriorating from age. The third class trees, or those below three feet in girth, were in fair proportion, and numbered about 3 to 1 with the former. As I probably saw about one-sixth of the whole ground, on a rough estimate, I should place the number of second class Teak trees at 1,000; and of smaller trees, excluding saplings, at 3,000 within the limits of the Dullee Forest. There is also a large amount of very fair Tinsa up to 3½ feet in girth, with plenty of excellent Beejasal and Tendoo, and some fair Dhamin and Sheshum; except Tinsa, however, the ordinary jungle timbers are of little value in this remote locality.

The Dullee Hill.

14. There appears to be a dispute going on as to the right to these jungles, on the part of the Zemindar of the Lohara. I have desired Mr. Jacob to apply to the Settlement Officer, in order that the question of proprietary right may be cleared up. In case the forest is decided to belong to Government, I should advise the formation of a Reserve here; but in case it is proved to belong to Lohara, it will be quite sufficient to require the Zemindar to protect the Teak. Indeed, the only complaints which I hear from the people of the Zemindar are on account of the strictness of his Forest management.

15. The whole Dullee Hill is a mass of iron-stone, and a large amount of charcoal is used in smelting it. The charcoal-burners, however, do not seem to have touched the Teak, and use principally Dowra and Salai for their work.

16. I also examined carefully in person the Balode Jungles mentioned by Lieutenant Plowden. They are low, flat-topped, sand-stone ridges, covered with a dense scrub forest of the ordinary description, containing about 20 varieties of trees common to all our jungles in a dwarf form; and the Teak on them is of the very worst description, never growing large enough to be used even as poles and rafters. The Sunjaree Jungles are similar to them, and both are in no way fit for Reserves.

Balode and Sunjaree Jungles,

17. These forests, however, furnish a large amount of lac, which is formed on the kosum trees, which, in parts, form a large proportion of the jungle. They also furnish a fair amount of small wood for agricultural purposes and village buildings in the plains. They are, therefore, well fitted

fitted for Unreserved forests.

to form Unreserved forests; and if care is taken in leasing them out, I have no hesitation in saying, that from lac and small building-wood alone a very fair revenue may be realized to Government.

Kankeir and Sohawa Forests.

18. The forests of the Kankeir Zemindary intervene to the east of Balode, and, as I was informed, certainly contain Teak of good quality; and east of them again (forming the south-east corner of the Raepoor District) are the vast forests of Sohawa around the head waters of the Mahanuddeo River. From what I am able to learn, it is probable that valuable Teak may be found in them; but as yet I believe they have not been visited by any European Officer. In consequence of the Chief Commissioner's instructions, I did not feel myself authorized to go so far away, in order to examine them personally; indeed, my duties elsewhere could not admit of it; but I have desired Mr. Jacob, as the season advances, to do so, and a full report shall be furnished. I cannot hope that forests at so vast a distance as these can ever pay for working as long as nearer timber is available; but, nevertheless, if good trees are found, it may be well to preserve them from wanton damage, while the nearer portions of them can, perhaps, furnish timber to the Raepoor market; and in any case the export of lac, gums, and tussa cocoons should furnish a fair revenue to Government. The Sohawa Forests are at present in the hands of a Tahootdar, but will revert to Government at the Settlement. The forests of Khurriar which, by Lieutenant Forsyth's Report, contain about 12,000 Teak trees, half of which, perhaps, are available for felling, lie still further off to the south-east than Sohawa; and the timber can only be got out to the eastward by floating it down the Tel River into the Mahanuddee. I cannot, then, class the Sohawa and Khurriar Forests as among our really available resources.

Sâl Forests in the Chutteesgurh Zemindaries generally.

19. As regards the Sâl Forests in the Zemindaries of Chutteesgurh generally, I am quite sure that the timber will not re-pay Government at present for the cost of carrying it to a market at Nagpoor; and as the Khalsa Forests are ample to supply the local wants of the Public Works Department, I do not recommend any measures to be taken at present, beyond cautioning their owners to discourage unnecessary injury to the Sâl trees in tapping them for dammer, and also to abstain from the formation of Dhyas, wherever good timber trees exist in the forests. There are, however, many places in which it is necessary for cultivation to clear the jungle; and in giving any instructions to the Zemindars on the subject of Dhya, I think that great care should be taken to explain clearly to them that it is the destruction of good timber, and not the extension of legitimate cultivation which Government wishes to prevent.

The forests between Dullee and Panabaras.

20. From Dullee I proceeded through the Lohara Jungles to Panabaras. There are evidences of some noble Teak having existed in Lohara on the borders of Panabaras in former days. Most of it, however, seems to have been cut, though I saw one noble tree still standing, though dead; also a canoe hollowed out of what must have been an enormous log. There is some promising young timber, however, of 2 to 5 feet girth, which will come on in course of time to perfection, but which it would be a pity to cut now.

Panabaras.

21. Thence I proceeded into Panabaras. A separate Memorandum on that noble Teak forests has been already furnished to form Appendix A.

Dense belt of jungle, east and west of Panabaras.

22. Between Dullee in Raepoor, and Wyragurh on the Wynegunga in Chandah, a distance of about 94 miles, there is a dense belt of jungle, through the whole of which, but few villages or clearings for cultivation, are to be met with. This belt contains scarcely a tree worth calling timber except in Panabaras, where Teak is found. The Eyne or Sâj which forms a large proportion of the jungle is here small and scrubby. A few good Beejasal *(Pterocarpus marsupium)* are, perhaps, nearly the only trees worthy of the

name of timber which I saw. I may mention that, between the water-shed of the Mahanuddee and the Wynegunga, there is a considerable rise in the general level of the country, amounting to at least 500 feet about Dullee, and between it and Panabaras.

Other sources for the supply of Teak.

23. Besides the Teak in Panabaras and Lohara, there can be no doubt that it exists in considerable quantities in the Kankeir Zemindary, which lies to the south and east of Panabaras, and probably it might be found of as large size as that near Dorwa. Of course its value much depends on the ease with which it can be carted away from the forests, and the distance from Nagpoor within which it is found. If, however, work be commenced by the Forest Department in Panabaras, any available timber, either in the Kankeir or Lohara Zemindaries, will soon be made known to us, as the people become used to the presence of our Officers in the forests. The chief points seem to be, *first*, to select a good centre in as healthy a locality as possible to commence work; and, *secondly*, to send only carefully selected and experienced Forests Officers, both European and Native, at first on this work; and, *thirdly*, to avoid petty and unnecessary interferences in forest management with the Zemindars.

Other considerations in regard to working.

24. It is, perhaps, needless to observe that due caution must be exercised before entering into any engagements in these remote localities to ascertain if more timber is worked than is required for Government purposes, that there will be an effective demand for it in the general market at the price at which it can be supplied; and to this end the facilities or otherwise for working the timber on the spot, as well as the cost of the carriage, and the existence of other timber of inferior quality, but nearer to hand, together with the possibility of timber carts passing over the roads, must all be carefully considered.

25. The salubrity also or otherwise of the forests for working should not be forgotten. I am strongly inclined to think that these jungles are far more unhealthy than those of Baitool, and that no work could go on under European superintendence for more than four, or, at most, five months in the year in Panabaras; and to get through it, both quickly and profitably, a considerable expenditure of capital on machinery would be necessary. Indeed, I much doubt if the large logs, which it would be so desirable in an economical point of view to bring into use, could be worked at all except with such aid.

Teak forests along the Wynegunga and Pranheeta.

26. Passing from Wyragurh down the Wynegunga River, I found that there was Teak (said to be of fair size) near Morunda, east of Chumoorsee and Amgaon, and all along 8 or 9 miles to the east of Ghote and Arpeillee as far as Aheree. All, however, which I saw about Arpeillee, Koongara, and down to Boree, on the Pranheeta, was for the most part a worthless scrub; and although covering in places the face of the country, it shows no signs of ever having grown really straight or sound. I can see no signs of it having suffered generally from Dhya cutting, as supposed by Captain Stewart (*vide* his Report). In many places, especially along the foot-paths, I noticed that the trees had been lopped (probably for the leaves), and otherwise injured; but the general surface of the country has never been cleared at all; and the gnarled and crooked appearance of the Teak, and the tendency to unsoundness noticeable in it, is the natural result of its growth in an uncongenial soil,—stiff and clay-like in its nature, level, and generally without drainage, and therefore charged in the rains with a superabundance of moisture, which no doubt tends to dwarf the trees. In places, however, trees of a better description are observable; and if wanton damage be put a stop to by the Zemindar of Aheree, wood sufficiently good for the ordinary wants of the agricultural population of the Chandah District, west of the Wynegunga, will abundantly be procurable, and at a considerable profit to the Zemindar.

27. Leaving the Zemindary of Aheree, I went to inspect the Khalsa Forests of the F. or Southern Division. They are as follows:—

Forest of the F. Division.

1st.—The Daba Forests south of Chandah.

2nd.—The Mohorlee Forests north of Chandah, between the Erahee and Andheree Rivers.

3rd.—The young Teak Reserve near Ashtee in the north-west corner of Wurdah.

28. *First*, as regards the forests of Daba. It was recommended for a reserve by Captain Stewart in 1861. It lies in the angle formed by the Wynegunga and Wurdah Rivers above their junction.

Proposed Forest reserve in Daba.

29. I cannot help thinking that this jungle must have been recommended as a reserve under a misconception of what the requirements of a reserve are. At any rate it is not a "Beejasal Forest" at all; it is nothing more than a dense tract of ordinary jungle and small trees, spread over an area of about 200 square miles, and possessing a sprinkling of fair Beejasal *(Pterocarpus)* in some parts of it; but Beejasal is by no means the predominating tree, and is, generally speaking, not of any great size, though straight and fairly grown. The trees most abundantly found are Tendoo *(Diospyros)* of indifferent quality on the east side of the forest, intermingled with bushes of the *Acacia Catechu;* and on the west side Mowah *(Bassia)* and Dowra *(Conocarpus)* mingled with a number of the commonest jungle shrubs and trees.

30. As, then, this jungle contains none of the reserved trees, except Beejasal, which timber, if the Teak forests of Aheree are opened to the Chandah market, would, I believe, scarcely be saleable there; and as from the close growth of scrub jungle, any demarcation operations must be very expensive for a large reserve, while a small one would, from the scattered condition of the Beejasal, be of no use whatever, I must state my strong objection to forming a regular reserve here at all. It seems to me that to do so would be a simple waste of money, for which no return could be looked for; and if two or three Peons are stationed in the surrounding villages under the Deputy Commissioner, as is at present the case, the preservation of the Beejasal would be amply provided for. The ordinary revenue derived from the Mowah and other jungle produce can be collected as in other places by the Zillah Establishment.

31. Lastly, I inspected the Mohorlee Forest; it is inferior in quality and size of timber to Daba: there are a few trees of Saj and Beejasal of fair size; but all the rest of it is a dense thicket, chiefly composed of Dowra, Tendoo, and prickly Acacia shrubs. To cut a boundary round this forest would cost Rs. 2,500; and to build boundary pillars Rs. 1,600 more. Such an outlay would be excessive for so poor a jungle, and I, therefore, recommend that the reserved tree to be watched by two Peons, as at present, under the District Officer, which will be ample precaution for their security. The only demand for the timber, which is scattered over a large area of about 300 square miles, is for local works at Chandah, which will not bear the cost* of more expensive timber of better quality.

Mohorlee Forest.

32. In addition to the two tracts just described, there is a tract of young Teak at Ashtee, in the north of the Wurdah District. It is proposed to mark off and reserve this, to prevent it being sold or cleared; but it will yield no timber except Teak-poles for many years to come.

Ashtee Reserve.

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* NOTE.—Since completing this Report I have seen Captain Macdonald, Revenue Surveyor, who tells me from practical experience that I have far under-rated the cost of cutting demarcation lines in the Mohorlee Jungle. He also entirely concurs with Captain Smith and myself in thinking that there is no wood whatever in any part of it which could ever re-pay the outlay of marking it off.

Summary.

33. The points, then, to be considered on review seem to be—

1st.—What is the total amount of timber available in the Government forests of the B. and F. Divisions?

2nd.—The same in Zemindary forests?

3rd.—From what sources the supply of Teak for Government purposes at Nagpoor, and in the stations south and east of it, is to be kept up?

34. As regards the first head, we have in the B., or Eastern Division, besides the Unreserved forests, two Government Reserved forests on the Jonk, of about 33 square miles area, containing about 1,350 Sâl trees, and 500 Teak trees, available for felling, besides young timber. Also (perhaps) one small reserve (Dulee) containing about 1,000 available Teak trees, and a quantity of smaller ones. In addition to the above there will be plantations on the Jonk.

35. In the F., or Southern Division, we have two tracts recommended for reserves, containing no Teak, but a quantity of young Beejasal *(Pterocarpus)*; the full grown trees having been for the most part already felled, and a quantity of other inferior jungle tree which are not now even taken by the Railway for sleepers. Also we have the Ashtee reserve, full of young Teak, but containing at present no available timber. But the two first tracts I myself do not consider worth reserving at all.

36. Under the second head, we have the Panabaras, Lohara, and Konkeir Teak forests, south-east of Nagpoor; and the Aheree Teak forests in the south on the Godavery, containing (as far as I can compare them with the accounts of other places) perhaps the largest amount of timber now left in any Indian forest, in easily accessible localities, and at not a too great distance from a market.

37. There can be no doubt that it is to the sources of supply under the last head that we must look for the requirements of Nagpoor, Chandah, Raepoor, and other cities and stations being met, mature Teak timber does not exist elsewhere; and I believe that even at Bombay the Teak and Black-wood from these forests might (now the Railway is complete) compete with the sea-borne timber of Burmah and Malabar.

38. Therefore, I would submit, for the consideration of the Chief Commissioner that, while there is Teak available so near at hand, the conservation of reserves of Beejasal in Daba and Mohorlee would be a useless waste of Government money, as I have shown that it probably can never yield a return for the outlay; and, moreover, it is very doubtful if, when a timber trade is opened from Aheree to Chanda, the wood would even be saleable. It will, I think, be quite sufficient for the Deputy Commissioner to include these tracts in the unreserved forests, reserving the Beejasal only from being felled.

39. This will then render the Forest Establishment available for the conservation and working of the Zemindary forests. These may, then, be formed into two Divisions (Northern and Southern): the former to be managed by the Assistant Conservator of the present B. Division, with a working centre at Panabaras; and the latter to be under the Assistant Conservator of the F. Division. These two Officers can then devote all their energies to carry out the work in forests which are worthy of bearing the name. I shall confidently hope before many years to see Teak timber form a staple article of export from the Central Provinces; and I doubt not that the money which will be expended in these Zemindaries from working the forests will be the means of bringing solid improvement and advancement both to the Zemindars and the people of the Eastern Districts,—a task which hitherto has seemed almost hopeless. I believe that, if once we get well to work there, the Teak resources of these vast jungle tracts will be found to be *much larger* than is at present supposed; and I feel most sanguine that the happiest results may follow these discoveries if only they are properly followed up. I may add

that in this hope I am fully borne out by Captain Smith, the Deputy Commissioner of Chandah, to whom the improvement of the Zemindars is an object of much anxiety. As a political measure, and not only as a mere forest operation, I feel that the work now proposed is one meriting the highest consideration of Government.

40. The commencement of the work in Aheree need not be delayed, as if Daba and Mohorlee are given up, as I trust that they may, Captain Jarrett has nothing else to do. But as Mr. Jacob should retain charge of the small reserves on the Jonk, which will be useful (locally) for Raepoor, he had better, during the present season, complete the work connected with them before commencing in Panabaras, which will not be injured by waiting another year, as no Contractor is now felling timber there.

41. I think that, if the plans which I have submitted are sanctioned, timber depôts should be formed at Burrumpooree for Panabaras, and at Chandah for Aheree; the timber then can be distributed to purchasers in whatever direction it is required. After the interest of Bhugwan Doss in the forests of Aheree ceases, the propriety of forming a Depôt down the Godavery, convenient for Hyderabad, may be considered.

42. It only remains, then, that Captain Smith, the Deputy Commissioner of Chanda, under whom both the Aheree and Panabaras Zemindars are, should enter into agreements with them for the working of their forests on such terms as the Chief Commissioner may see fit to sanction, and at the same time as will be agreeable to the Zemindars; and I would solicit that instructions may be issued to that Officer at once to this effect.

No. 840—74, dated 8th March, 1867.

From—C. Bernard, Esq., *Secy. to Chief Commr. of Central Provinces,*

To—*Conservator of Forests, Central Provinces.*

Your letter No. 313 of the 26th February, having been laid before the Chief Commissioner, I am directed to convey, in the same order of subjects as you have adopted, the following instructions upon the several points to which your letter has reference:—

2. Firstly, I am to express Mr. Temple's acknowledgments of the services you have rendered by exploring the Chutteesgurh and the Southern Division; and I am also to thank you for the clear report you have submitted.

Next, I am to advert to the several matters discussed in your Report, regarding which the Chief Commissioner's orders are required:—

Para. 7.—The Chief Commissioner considers that the negotiations with the Deoree Zemindar should be pursued. Even if the wood be not required for the Public Works Department, it would be useful for the local wants of the population of the Chutteesgurh plain.

Para. 9.—Your statement to the effect that the timber in Sonekhan is the property of Mr. Meik, is quite correct.

Para. 13.—The early felling of the full-grown timber on the Dullee Hill should be arranged for, in such rotation and with such other precautions as you may think fit.

Para. 14.—The attention of the Settlement Commissioner will be invited to the question of proprietary right in the Lohara Jungles, in order that the matter may be determined at an early date.

Para. 15.—The custom whereby charcoal-burners and iron-smelters spare Teak timber, is satisfactory.

Paras. 17 *and* 19.—Extract copy of para. 18, and the whole of para. 17, will be forwarded to the Commissioner of Chutteesgurh, who will be invited to report at an early date on the measures taken to raise a revenue from the Unreserved Forests to which you refer.

Para. 18.—The Chief Commissioner is glad to learn that you have directed Mr. Jacob to visit and report upon the Sohawa Forests. Even though these tracts are distant from Raepoor, still some understanding should be come to with the people regarding conservancy. The Commissioner of Chutteesgurh will be invited to report at an early date upon the excess wastes of Sohawa, and the measures taken to realize forest revenue therefrom.

Para. 23.—The Chief Commissioner would desire that the Kakeir Forest should be visited by Mr. Jacob as soon as opportunity may offer.

Para. 26.—Extract copy of this para. will be forwarded to the Commissioner of Nagpoor, in view to the Deputy Commissioner of Chandah's arranging with the Zemindar for the proper conservancy and working of the Arpeillee and Koongara Jungles. The Chief Commissioner's orders upon your Aheree Forest Report have been separately communicated to you. Under those instructions the Teak forests of Dewulmurree alone were to be worked by the Forest Department; while the rest of the Aheree Jungles were to be worked by the Zemindar, subject to the general supervision of the Deputy Commissioner of Chandah.

Paras. 28 *to* 31.—The Chief Commissioner has already, in my reply to a separate letter, expressed his concurrence in your opinion that the Mohorlee and Daba Jungles should not be marked off as Reserved Forests.

Para. 32.—In respect to the Ashtee Reserve, the Chief Commissioner will await the Report you may submit after visiting the Wurdah Jungles. He believes he will be able to accede to the recommendation you may then make.

Paras. 39 *to* 41.—The Chief Commissioner fully approves your proposals for working the Panabaras and Aheree Forests. The former will belong to the Chutteesgurh Forest Division; it will have a working centre at Panabaras; and its Timber Depôt will be at Berampooree. The latter will belong to the Southern Division; it will deserve, and will doubtless receive, a large share of Captain Jarrett's attention; its working centre will be at Aheree; and its Timber Depôt at Chandah. Mr. Temple concurs generally in your view of the value of these Trans-Wynegunga Forests; and he hopes that the working of the timber they contain will do good to the Zemindars and to the people of these hitherto little known tracts.

Para. 42.—My previous letters have informed you that the Deputy Commissioner of Chandah has been instructed to come to a distinct understanding with the Zemindars regarding the terms under which the Forest Department, with the Chief Commissioner's sanction, will work the Aheree and Panabaras Teak forests. The Commissioner of Nagpoor will be invited to report when these negotiations shall have been brought to a successful issue.

No. 177 F, dated 15th May, 1867.

From—Colonel C. H. Dickens, R. A., *Secy. to Govt of India, P. W. Dept.,*

To—Chief Commissioner of Central Provinces.

I am directed to acknowledge the receipt of your Secretary's letter No. 1092—102, dated 25th March 1867, forwarding, with your orders thereon, an interesting Report by Major Pearson, the Conservator of Forests, on the Forests of the Eastern and Southern Districts of the Central Provinces, to which are added, as Appendices, the Reports on the Aheree and Panabaras Forests, which had been previously and separately submitted.

2. With reference to the first named Report, I am to request that you will report to this Office the result of the negotiation with the Deoree Zemindar for the lease of the Kumturra Nulla Sâl Forests in the Raepoor District.

3. In continuation of Public Works Department letters Nos. 141—2, dated 6th April, communicating orders on the Reports of the Aheree and Panabaras Forests, I am to request that, when the agreements with the Zemindars for leasing these forests are concluded, the result may also be reported to the Government of India.

4. The terms of the agreement, as sketched in your letter of the 8th March 1867, No. 842—74, for the working of the Panabaras Forests, seems suitable; but no allusion is made to the period over which the lease is to extend.

5. In reference to the rates of payment fixed, *viz.*, 3 annas per cubic foot of Teak and Sheshum in both the Panabaras and Aheree Forests, I am directed to state that this seems to be a better mode of payment than at a certain rate per tree. Three annas per cubic foot, or Rs. 7½ per tree of 40 cubic feet, is rather a high rate to pay for timber in such remote localities, but Major Pearson properly observes that it is better to be generous, in order to secure the cordial assent of the proprietors of the forests.

6. Major Pearson's Reports on the Forests of the Eastern and Southern Districts, and on the Aheree and Panabaras Forests, together with your orders thereon, and the orders of the Government of India, will be printed as an Appendix to the Forest Administration Report of the Central Provinces for 1866-67.